

# MANUFACTURERS' RECORD.

A WEEKLY SOUTHERN INDUSTRIAL, RAILROAD AND FINANCIAL NEWSPAPER.

VOL. XXXI. No. 19. |  
WEEKLY.

BALTIMORE, JUNE 4, 1897.

\$4.00 A YEAR.  
SINGLE COPIES, 10 CENTS.

## Manufacturers' Record.

PUBLISHED EVERY FRIDAY BY THE  
Manufacturers' Record Publishing Co.  
RICHARD H. EDMONDS, President.  
OFFICE: MANUFACTURERS' RECORD BUILDING,  
BALTIMORE.

RICHARD H. EDMONDS,  
Editor and General Manager.

THOMAS P. GRASY,  
General Staff Correspondent.

NEW ENGLAND OFFICE—John Hancock Building,  
178 Devonshire Street, Boston, Mass.  
S. I. CARPENTER, Manager.

Special Traveling Representatives:  
RICHARD S. EVANS,  
I. S. FIELD.

SUBSCRIPTION, - - - - \$4.00 a Year.  
TO FOREIGN COUNTRIES, - - 26s. 6d a Year.

BALTIMORE, JUNE 4, 1897.

## Fair Treatment of Railroads

Signs are abundant that the recent utterances through the Manufacturers' Record of John R. Procter, Hilary A. Herbert and Governor Joseph F. Johnston, touching the proper relations of the Southern people to aggregate capital, are directly and indirectly having a beneficial effect. The wide publicity of such views has had a hearty response from influential daily papers, showing that public sentiment is ripening for the correction of abuses which have arisen from a temporary suppression in some quarters of Southern conservatism by the spirit which has worked its evil elsewhere in this country, and for the prevention of a repetition. Referring to the interview of Governor Johnston and his statement that a comparison of the proceedings of the last sessions of the legislatures of Kansas and New York with that of Alabama is a "memorable argument in favor of the conservatism of the Southern people," and that, compared with public sentiment in the three States named, as manifested by the proceedings of their legislatures, we have here proof of the existence in Alabama of a much deeper and more ineradicable veneration for law and order, a more profound respect for time-honored precedents, as well as a more emphatic indisposition to evade, abridge or impair the rights either of corporations or individuals, the New York Times says that Governor Johnston is earning the title his admiring constituents gave him, "the business governor," and that "so far as the New York legislature is concerned, this statement is sadly true." Commenting upon the same topic, the Baltimore Sun points out that there is a noticeable growth of conservatism in Southern States, and that there is again a disposition to regard capital as a welcome thing and capitalists as a class to be tolerated, if not admired, and adds the significant words: "A people cannot afford to kill the goose that lays the golden egg."

That is a homely expression, but it expresses the truth, and is particularly applicable to one form of capital which

has done much for Southern development, and is capable, under encouragement, to do much more—the railroad. As an illustration of the importance of railroads to the people beyond their services in communication and transportation, President E. B. Thomas, of the Erie Railroad, gives the following figures:

The Erie, with a gross income of about \$30,000,000 per annum, distributes in wages among about 30,000 employes over \$16,000,000, and for material nearly \$6,000,000, the greater part of which goes to the labor producing the manufactured articles. Taxes amount to over 3 per cent. of the company's gross revenue. The total number of railroad employes in the United States is about 800,000, and the total expenditure is over \$725,000,000. With five individuals to a family, there are 4,000,000 of people directly dependent upon the railroad industry, which thus distributes more actual money to a greater number of individuals than any other industry. The United States Post-office Department is considered an important business, and yet the aggregate expenses of that department in 1895 were \$90,544,322, while for repairs and renewals of locomotives, passenger and freight cars our railroads expended in the same year \$93,707,980. I only refer to these facts for the purpose of showing how intimately the successful conduct of these great properties is interwoven with other industries of the country, and how impossible it is to injure our railway properties without at the same time seriously injuring almost all other occupations and curtailing the prosperity of the entire nation.

Again, President Stuyvesant Fish, of the Illinois Central Railroad, points out that that corporation will annually report gross earnings of \$28,000,000 or \$30,000,000, and yet of this amount but a very minute proportion reaches the pockets of the stockholders. A distinct example of the excellent result of expenditures of some of the millions is the increased export trade of New Orleans, due in large measure to the improvements known as the Stuyvesant docks, and the further fact that though the franchise of the road, as affecting its right to use its property there, is to a certain extent menaced pending final action by the courts, the corporation will continue the work of improvement. So much for the work of one road in the South at one point. Solid and healthy truth is also uttered by W. W. Finley, second vice-president of the Southern Railway. He says:

The railroads can justly lay great claim in the progress of the Southern development. They have opened up rich and new territory to settlement and added largely to the facilities for growth and development. They recognize the fact that the prosperity of the territory through which their lines run means their success, and so even from a purely selfish motive, if for no other, they desire to foster and encourage all legitimate enterprises. The particular railway with which I am connected is no exception to this rule, as it is maintaining an effective department, whose work is directed to the development of the agricultural and industrial interests of the section of the country tributary to its lines. It is also expending large sums of money for betterments of its properties and in increasing the facilities necessary to give the public superior advantages for transporting the products of the mill and the farm.

Such facts must be before the Atlanta Journal when criticising the

radical railroad legislation of the Michigan legislature, for it says:

It is not right or honest to force a corporation to do any business at a loss. Corporations may not have souls, but they, as well as individuals, have rights which should be respected. One objection to extreme anti-railroad legislation is that it is calculated to bring the principle of railroad regulation into disrepute, but the main point is that it is wrong.

Even in Florida, where there are still survivals of the unreasonable agitation against railroads; in Florida, which owes more to railroads than any ten other forces, but which has nevertheless had to submit to legislation calculated to suppress further development in that direction, the protest of conservatism is heard. The Jacksonville Citizen asks why, in addition to a railroad commission, with absolute power, are not appointed also commissions to regulate farming, trucking and hotel business, while the Jacksonville Times-Union, in suppressed indignation, says:

The legislature has recently passed a bill which gives control to three men appointed by the governor of the many millions invested in railroads in this State. They can make these investments worthless, if they choose to do so—bankrupt every railroad company, and, in fact, confiscate every dollar invested in railroad property. We do not believe they will do anything of the kind, because we believe the governor will appoint men as commissioners who have the State's true interests at heart; but the fact remains that this legislature is radical in its nature, and denies rights to investors in Florida property which have been held sacred heretofore from the beginning of the State. Under these circumstances, it behoves the legislature to be exceedingly conservative in its future proceedings. It ought to legislate for Florida, but this does not mean that it should legislate against everybody living outside of Florida. On the contrary, Florida's interests require that every foreigner should feel safe in investing his money in this State. After the recent action of the legislature, this is impossible in regard to railroad investments, but it may yet be possible to show that, as a whole, investments in Florida are safe.

To be sure, the position is very much like locking the stable door after the horse has been taken, but it may be regarded as another token of a return to the wise, conservative policy that, following the suggestions in the action of the Oregon legislature, to which Mr. Thomas P. Grasty alludes in his article on the next page, will amend paralyzing legislation and make it certain that capital may, in the words of Governor Johnston, "be safer in the South than in New York or New England."

## Senator McLaurin.

In appointing John L. McLaurin United States senator, Governor Elledge has not only recognized distinguished merit, but has also conferred a distinct benefit upon South Carolina, and has added strength to the upper branch of the federal legislature. Supposed to represent peculiarly the interests of their respective States as units, some of the members of the Senate have at times strayed into the wilderness of personal exploitation, and in vain beatings of the air and in empty utterances of nothingness, have ne-

glected the real welfare of their constituents, if, indeed, they have not menaced it.

In the House of Representatives Mr. McLaurin has demonstrated his willingness to subordinate figments of party politics to material purposes and his ability to seize an opportunity to act effectively to that end. In his recent speech, to which the Manufacturers' Record has referred more than once before, he occupied the national rostrum at Washington not to issue flat and inflated notes for political capital, but to give to the country a currency which will be redeemed on demand in the sound wealth of soil, forest and mine of his State in fair exchange. He has invited capital and labor to invest there, with full promise of rich returns, and in his broad summary of South Carolina's resources he has accentuated the work which already has been done in the same direction by other influences, and has discounted a hundred political harangues.

He has not exhausted the subject, and his entrance into the Senate implies that he is expected to maintain the solid reputation that he has already gained and to increase it.

## Hints for Southern Mills.

According to a dispatch from Boston, there is a movement developing for a curtailment this month of the output of New England cotton mills. The advocates of a general shut-down point to the meagre dividends paid by the mills for the last quarter. Thirty-eight corporations have paid to stockholders \$192,950, or an average of seven-eighths of 1 per cent. on a capital of \$22,133,000, one of the slimmest showings in the history of the industry. It is further stated that surpluses from which dividends have been drawn are either exhausted or are needed for purposes of improvements. Fifteen of the mills, among which are some equipped to produce goods economically under the stress of hard times, have passed their dividends, and stockholders in others have had to be satisfied with small dividends.

This situation was viewed rather radically recently by a writer in the New York Tribune, who argued that directors of Northern mills must meet in the near future one of the following conditions:

First—Either their mills must move South, and, with their present well-known brands, which they cannot manufacture at a profit in the North, they will be able to supply the markets of the world. Competition would be useless by any other country of the world or section of the United States.

Second—Or, by a layout of money and time, turn their mills on to fine yarns. There seems to be a grave doubt in the minds of the best judges of the advantages of this step at present in the States, as the field is already well covered.

Third—Or go out of business and sell their plants to some other business.

While such views must be taken with several grains of allowance, candid observers have been compelled to acknowledge that the Southern mills have certain distinct advantages. These were

set forth by President Sandford, of the Sandford Spinning Co., one of the experts sent South by New England manufacturers, as follows:

There has been a great deal said during the last five years about the inefficiency of the Southern operative; that he is not able to do as much work and as well as his Northern competitor. I find the operatives are good native American whites. They very quickly adapt themselves to the work; are eager to learn, happy, contented, with no tendency to strike or to join labor organizations. They want work, are industrious, and are proud of the mills they work in.

Wood is used largely; two cords of wood, against one ton of coal, costing for same \$1.15 per cord, or at the rate of \$2.30 per ton of coal. Coal also can be had cheap, costing, according to location, \$1.50 to \$2.50 per ton. Some mills located on fine water powers are making great saving. Alabama exempts from taxation for ten years all corporations locating within her borders.

In North Carolina, South Carolina and Georgia taxes are very low. One mill which I visited, having \$250,000 investment, pays a tax of only \$240 per annum. Such a mill in Fall River will pay \$5000 tax. All the large mills are paying almost no tax to speak of.

The mills recently built and now under construction by our leading mill architects, located in the Piedmont belt, are the equal of anything in New England, both in design, construction and equipment of machinery, nothing overlooked to make them complete. They have also reduced the cost of building of \$20 per spindle formerly down to \$15 and \$16, including tenements for help. Owing to being able to run day and night, they are also equipping mills with half of the machinery for carding and spinning departments—say, for running 1000 looms—operating their carding and spinning day and night, thus supplying the looms for the day's run. This enables them to get the production of a 40,000-spindle mill, and having to buy equipment for only 20,000 spindles in carding and spinning-rooms.

The subject is capable of great elaboration, but enough has been noted, probably, to form the basis for a suggestion. Mr. Sandford calls attention to the completeness of the equipment of the Southern mills just built or under construction. Their proprietors have acted upon the principle which has long been the rule in New England, that the competition in textiles in this country has reached a point where it is absolutely necessary to install modern equipments. It would be well for every Southern mill corporation to adopt the same. Natural advantages are well enough, but they will not be sufficient to maintain a mill against the economy of modern machinery in the long run. Natural advantages and modern machinery combined are invincible.

#### Charleston's Direct Trade.

The announcement of the establishment of the Charleston Transport Line, a means of direct communication between the metropolis of South Carolina and European ports, is gratifying to all persons who are interested in the commercial development of that city. The line will have agents at Liverpool, London, Newcastle-on-Tyne, Manchester, Havre, Rotterdam, Hamburg and Bremen, and its promoters confidently expect that, with the support of the railways, the export trade of the city will be increased. The results of the undertaking, which will begin active operations in September, will be awaited with interest, and it is hoped that they will mean not only that Charleston is to become an important shipping port for grain and general merchandise, in addition to its cotton trade, but that it may also thrive and grow as a distributing point for imports.

The nearer the imports and exports of a city approach each other in volume the more stable will be its general commercial standing, and there is no reason why Charleston, as well as other Southern cities, may not, under chang-

ing circumstances, enjoy the advantages, direct and indirect, of handling their proportion of the trade which flows inward to the United States.

#### Acquittal of John E. Searles.

The acquittal of Mr. John E. Searles of the charge of having violated United States statutes in refusing to answer questions asked of him by the Senate committee when the Sugar Trust investigation was in progress is a satisfactory conclusion of a trial which ought to have been unnecessary. The relief of Mr. Searles from personal inconvenience and annoyance—a relief upon which he is to be congratulated—is a matter really of secondary importance. The main fact is that Justice Bradley has enunciated a principle which ought to have a healthy effect upon the country.

The issue of the trial was the refusal of Mr. Searles to answer certain questions of the Senate committee on the ground that it did not have lawful power or authority to propound the questions, and that he did not think that he was lawfully bound to answer them. In his decision Justice Bradley held that, under the circumstances, the questions asked were not pertinent, and, if construed to be pertinent, that they were an unwarranted prying into the private affairs of the company, and, therefore, beyond the jurisdiction of the Senate.

Recent events in New York and other States have shown how the spirit of "unwarranted prying" has spread over the country from Washington, and it is hoped that the lesson taught by Justice Bradley may be so well learned as to bar in future investigations planned as mere bluffs, as political clap-trap, as stock-jobbing agencies, or for revenue purposes only.

#### Alabama's Mineral Production.

The mineral production for the State of Alabama for the month of April, 1897, as ascertained from report made by the several producers to State Geologist Eugene A. Smith, is as follows: Coal, 382,462 tons; coke, 108,015 tons; pig iron, 81,824 tons; iron ore, 243,808 tons; limestone and dolomite for flux, 20,200 tons; building stone, 12,000 cubic feet; bauxite, 879 long tons. Number of employees engaged with mineral industries, 13,500.

#### Iron Fortifications.

In the Army and Navy Journal is a letter describing the plans of James Acton Miller, of New Haven, Conn., for iron fortifications. One very important feature claimed for the invention is that almost any kind of metal that can be melted may be used, as it is a well-known fact that mixtures of scrap iron run in ordinary foundry practice makes a very hard casting, and this is to be desired, and it is thought by the inventor that only a small part of new metal will be required for casting the body walls of forts, and for that matter where great haste is required and not sufficient time to procure new material, the entire fort can be made out of old material. The suggestion is made that the South might be interested in the matter especially, inasmuch as that section is a basis of the iron industry today, and every ton of iron used in such fortifications is to its advantage.

The Beaumont (Texas) Board of Trade has elected A. Greer, president; J. B. Goodyear, vice-president; J. W. Davidson, treasurer, and R. D. Simonton, secretary.

## LESSONS DRAWN FROM OREGON.

#### Some Observations on the Evils of Railway Commissions, Suggested by a Visit to the Nashville Exposition.

The first man I came across among those who have been attracted by the Nashville Exposition "to take a look" with a view to locating in the South was a farmer from Oregon. "Why are you leaving Oregon?" I asked.

"I've been waiting fifteen years for a railroad to be built to within striking distance of where I live," he replied, and I'm just simply so tired of waiting that I'm going to move."

Then he told me that, though he raised good crops, he had to haul them forty miles to reach a railway depot, which, as he phrased it, "eats up all there is in farming." The State railroad commission, he declared, had scared off the moneyed men from thinking about building new lines in Oregon, and as there seemed to be only a few counties in all the South without a railroad, he was down looking around.

This was a new reason for moving South, but a moment's glance at the map will show it to be a very good one. The pith and point, however, of the lesson which this homeseeker's experience teaches is in line with the warnings which, through the Manufacturers' Record, such men as John R. Procter, Hilary A. Herbert and Governor Johnston, have of late been giving the Southern people against pursuing a policy calculated to set back the progress and prosperity of their country twice as long as this Oregonian has been waiting for a railway to come to his deliverance. By a singular coincidence there came into my hands a most interesting corroboration of the evil effects of the railway commission in that far Western State in the shape of the following paragraph from the Railway Age of May 21:

"While Florida and Tennessee have just established State railroad commissions, the Oregon legislature is about to repeal the law under which its commission has existed for the past ten years. It is claimed that during this period the reductions in freight rates, secured largely by the railroad commission, will exceed \$1,000,000. But the farmers and the many people of Oregon who are not farmers have looked around to see if they are better off for the attempt to make a single interest bear so much of the burden of poor crops, low prices and hard times.

"The people of Oregon find," continues the Railway Age, "that while these railways are all impoverished, and would-be builders of more roads have been effectively warned off, the reduced rates have not made crops any larger or prices any higher or business generally any more prosperous, and they are thinking that perhaps it would have been better all around if they had encouraged railway building, with its attendant industries, instead of repressing and making it unprofitable. So we find that in the words of one of the railroad commissioners, 'the commission is doomed. Public sentiment demands its repeal.'"

Here is example of how the people of Oregon are beginning to rub out some of the sand which demagogues threw into their eyes ten years ago. With the repeal of this vicious law, which has operated as a Chinese wall in keeping capital out of Oregon, we are liable to see in Oregon what we saw a few days ago in Alabama—the possibility of finding abundant money to build any really necessary new railway within the State.

The refusal of the Alabama legislature to enact certain anti-railway legislation had hardly gone out before the \$4,000,000 required to build a new line from Montgomery northwest was found.

But Oregon will not be benefited half as much by the inflow of money for building new lines of rail which will follow the repeal of its railway-commission act as from investments in the thousand and one other branches of industry to which railway prosperity always gives an impetus. So tremendous is the railway as a factor in progress and prosperity that the financial world is not only moved to confidence or distrust by the movement in values of railway securities, but men with money with which to build factories fight shy of all sections where railroads are victimized under the forms of law. This is because business men prefer to do business with business men rather than with politicians. It often happens that a railroad can afford to make a special rate on fuel or raw material to a factory because it has the hauling of that factory's output. Those contemplating the building of factories want to be in a position to know what everything is going to cost. This can never be known if rates are to be fixed by politicians entirely lacking in the kind of training necessary to a scientifically equitable arrangement. As the Oregon case proves, politicians make mighty poor traffic managers, even from the standpoint of what is best for the farmers.

It would prove highly instructive and perhaps profitable to the Southern public at large, especially in the States of Tennessee and Florida, to know how low are the prevailing railroad rates in their part of the country as compared with the rest of the world. It goes without saying that in a densely-populated country lower living rates can be made than in one sparsely settled. Any farmer can understand the why and wherefore of that proposition. Germany is ten times more thickly settled than the Southern States, and yet the rates which today prevail in the Southern States are absolutely lower than in Germany. If rates in the South be made materially lower than at present, wages of employees would have to be cut down to the starvation mark to prevent bankruptcy. Starvation wages are bad enough, but general railway bankruptcy would be worse. For, as Professor Procter has well said, "it would be an absolutely suicidal policy for the South to do anything to cripple the railways, which are indispensable instrumentalities in its development." And to this sound sentiment that eminent thinker and time-tried friend of the South added these words by way of appeal to our common sense and instinct of self-preservation: "If the South's railroads be forced into bankruptcy, her furnaces and factories into idleness, it would double the work necessary to get the South's share of co-operation, in the form of capital, when the reaction (i. e., a change from a feeling of distrust to one of confidence) shall set in."

The same eminent authority declared, in his talk about "The South's Obligations and Opportunities," that there can be no alliance between the West and the South; "for," said he, "no alliance can last without some common ground to stand upon. The West is the South's competitor for desirable immigration, for capital wherewith to buildup and develop

as well as in other directions." And this means that the section which enjoys the best credit and gives the best protection to capital (whether invested in railways or otherwise) will make most rapid headway.

\* \* \*

The indications are that this exposition will prove a useful lever of development. It is situated just far enough South, and yet not too far South to draw a large attendance from the North and the Northwest. It is the thrifty, energetic, self-respecting American whom we want to come and settle in the South, and at first blush I am inclined to think that this exposition is better equipped to give to an intelligent man a correct idea of what the South is and what are its real advantages than any heretofore held.

THOMAS P. GRASTY.

Nashville, May 31.

#### RAILROADS AND THE EXPOSITION

##### Exhibits of Transportation Lines Which Strikingly Show the Resources of the South.

The success resulting from the Tennessee Exposition will be due in no small degree to the interest manifested by the railroad companies of the South in the enterprise, as manifested by the elaborate displays they have prepared. These displays are by no means confined to rolling stock or other features of a technical exhibit, but have been collected and arranged with a view of showing visitors the character of the country traversed by the different lines, as shown in the variety of products from the soil and the quality and kind of the mineral and timber resources. On every side one sees a broadness and magnitude in these railroad exhibits, which show that the various corporations have appreciated the value of the exposition in calling attention to the resources of the South. It is evident on every hand that money has been lavishly spent and no pains spared in order to secure the best representation so far as the transportation companies are concerned.

As might be expected, the Nashville, Chattanooga & St. Louis Company has taken a deep interest in the exposition, and has arranged one of the most creditable of the displays. President J. W. Thomas, who is also at the head of the exposition, realized that Col. J. B. Killebrew, immigration agent for the company, was the man to collect such an exhibit as was desired, and Colonel Killebrew was placed in charge of the undertaking. While his task was an arduous one, he spared no efforts, and the results of his work must be seen to be appreciated. The ornamental features of the display are largely made up of friezes of grain and bunting, with rosettes of corn and small grains arranged between the windows. Columns decorated with agricultural products are supplemented by oil paintings of Tennessee scenery, while a conspicuous feature is the inscription, in letters made of cotton bolls, "Nashville, Chattanooga & St. Louis Railroad." Very appropriate are pictures of President J. W. Thomas, also J. W. Thomas, Jr., which are placed in this portion of the building. The collection of woods comprise 109 varieties. While showing the rough exterior the interiors are polished and are in small pieces, quartered; can be carried to the light and examined. There are 100 different crops on exhibition, including both garden and field products. The collection of corn alone is a revelation. The flora of the entire system adorn the walls, named and labeled, the place from which each is taken, and in addition are found the

flora of the entire Southern country, including the Cumberland mountains. Specimens of marble form the wainscoting from Georgia, Tennessee and other Southern States, and minerals of every kind are here in profuse abundance.

The display of the Seaboard Air Line, combining, as it does, novelty and interest, has also been made very attractive. The Manufacturers' Record has already referred to the car constructed to represent the road. It contains samples of grain, woods, tobacco, cotton and rice sent out from this prolific section of the South. One of the attractions is a huge ear of corn, which, it is said, was raised in North Carolina with the aid of a "spoonful of fertilizer and a bushel of patience." A very curious and interesting collection of plants which abound in the Carolinas is also seen.

The exhibit is part of the work of the industrial department of the road, which is attracting so much notice in railroad circles, and on the whole, from the standpoint of beauty or decoration, artistic and tasteful arrangement and extent and variety of exhibits, cannot be surpassed.

At the invitation of Mr. John T. Patrick, the industrial agent of the Seaboard Air Line, this car has been made the headquarters for press representatives and the public generally.

The Georgia Railroad occupies half of the lower story of what is known as the Terminal building, with an arrangement of products which significantly indicate the resources of the section of the State which it traverses. The granite deposits which are found so extensively along the line of the railroad have furnished a number of the most conspicuous portions of the display, which is divided into sections apportioned to agriculture, woods, minerals, manufactures, clays and pottery wares, tobacco, and later will show up the fruits and growing crops.

In the centre of its room is an exhibit entitled, "A Cottonseed and Its Product." This exhibit is intended to show visitors what is done with cotton. It begins with the seed ready for planting, the growing cotton plant in various stages, the seed cotton as picked from the boll, the lint, the cotton bale, then through every stage in the Southern cotton factory, with samples of Southern-made goods. It then goes into the finer fabrics made for the ladies to wear. On the opposite side is shown the product of the rope factory, where cotton is made into rope, cord and twine of all descriptions. Then, worn to old rags, it is turned into the paper mill, and fine samples of many varieties of paper are shown. From this it is intended to go into the cottonseed-oil mill and show the many uses to which the cottonseed, once discarded, is now put, and the commercial value of the same. In the exhibit is a stalk of cotton eight feet high, with over 400 bolls. In the background is a picture four and one-half by twelve feet, showing many different scenes in the growth of the cotton industry in the Southern States, King Cotton, seated on his throne, being the centre-piece.

The Southern Railway Co. is also very creditably represented, as might be expected. Those who remember the building especially erected by the Southern at Atlanta were prepared to see something out of the usual line at Nashville. Mr. M. V. Richards, land and immigration commissioner of the company, has appreciated the value of the exposition to the railroad, and has been given ample authority and hearty encouragement by President Spencer and Vice-Presidents Finley and Gannon to prepare a suitable display to the standing of this company so far as regards minerals, forestry and agriculture. These features have been

represented in such a manner that, taken as a whole, they form a great object-lesson to everyone who attends the exposition. The many kinds of woods are seen in their natural, also manufactured state, while a variety of ores, valuable stone and samples of coal from the extensive mines along the line of the Southern have been carefully arranged, so that one can realize the value of these deposits. Farm products, including all the important grains, grasses and vegetables, are comprised in the display as well.

But what we have described represents only a portion of what the railroad companies have done. The Louisville & Nashville, the Plant system and other companies are represented there by types of modern rolling stock in use or by the natural resources of the territory which they reach. The elegantly-equipped train of Pullman cars, which attracted so much attention at Atlanta, is again on display at Nashville, and is visited daily by thousands. The large and powerful locomotives which are required to haul the express trains of the various Southern lines of today are shown in contrast to some of the almost miniature engines of former years. In fact, the entire railroad section affords an innumerable number of points of interest where the visitor could linger for days and then but partially realize its magnitude.

##### Literary Notes.

The Journal of the American Foundrymen's Association for May, published at Detroit, Mich., contains reports of the proceedings of the Philadelphia Foundrymen's Association, of the Western and of the Pittsburg associations, an article on aluminum and its use in the foundry and other features.

The Federal Courts; Their Organization, Jurisdiction and Procedure. By Charles H. Simonton, United States circuit judge. Publisher, the B. F. Johnson Publishing Co., Richmond, Va.

This volume, embodying lectures before the law school of Richmond College, is the only work of the kind entirely covering its ground. The author, regarded as one of the ablest jurists in the United States, is well equipped for his work, in which a happy facility of literary expression is made the medium for conveying to class or practitioner the results of deep research. Judge Simonton deals with the Supreme Court, the Circuit Court of Appeals, the Circuit Courts, the Court of Claims and the courts of the District of Columbia and the Territories, summarizing their jurisdiction and the procedure before them. The work will be found valuable both in the classroom and the law office for its condensed information, its references to determinative cases and its helpful suggestions.

The "Pool" and the "Trust;" Their Side of the Case. By William L. Royall. Publisher, George M. West, Richmond, Va.

In this review of the Supreme Court's traffic decision, the position is taken that the trust and its kindred organizations are products of evolution destined to restrict competition within wholesome bounds, and the purpose of the brochure is to work a foundation for the trust out of the elementary principles of the institutions and laws of the country, thus securing for it the sanction of an intelligent public opinion and the protection of the Constitution. The discussion turns upon the definitions of "public policy" and "restraints upon trade." The author contends that the clamor against trusts is at bottom a war upon capital, and, in conclusion, says: "Liberty of thought and action are not to be denied to the capable

and the resolute because the weaklings are not equal to keeping up with their speed. That is the law of life, and when we accept it we bring the greatest good to the greatest number."

Interest in the discussion of the selection of two distinguished Marylanders entitled, by reason of their eminent services, to be commemorated in Statuary Hall of the Capitol at Washington has brought out an interesting brochure, setting forth facts for the consideration, in that connection, of the name of John Hanson, who, in addition to his wide-awake, patriotic services, dating from the time of the stamp-act agitation, was, in the closing years of the Revolution, "the President of the United States in Congress assembled," the highest office ever filled by a Marylander. He was descended from the old and influential Hanson family of Kent county, and was born in Charles county in 1715. His wealth and social standing, with his native ability, his culture and patriotism, made him a power in the public affairs of the province, and for several years he represented his county in the Lower House of the general assembly. Under the non-importation policy of 1769 he led his fellows in October of that year openly and without fear of detection in compelling Charles county owners of goods imported contrary to the agreement to ship them back to England. Removing to Frederick county in 1773, he soon became a wise adviser and a firm, alert leader of the people of that part of Maryland in their struggle against the impositions of the mother country. He presided over the meeting of the citizens of Frederick in opposition to the Boston port bill, and was one of the delegation chosen by them to the "General Congress at Annapolis." He served as chairman of the committee of observation, was a member of the committee of correspondence, a delegate to the provincial convention of 1775, and was active in defeating the plot of Lord Dunmore, the royal governor of Virginia, against the Western settlements and in organizing the first two companies from the South to join Washington at Cambridge, Mass. He was actively engaged in organizing troops in the early days of the Revolution, and in 1779, 1780 and 1781 he was a member of the general assembly. Chosen a delegate to Congress in 1780, he was in 1781 elected its president, and as such made the address of welcome to Washington after the surrender at Yorktown. He died in 1783. The volume is a handsome piece of work, and contains two half-tone engravings of John Hanson.

The Southern Grocers' Association, at its annual meeting at Nashville, Tenn., re-elected its present officers, who are as follows: E. G. Leigh, Jr., of Richmond, Va., president; W. B. Lockett, Nashville, Tenn., W. F. Vandiver, Montgomery, Ala., vice-presidents; J. D. Blair, Richmond, Va., treasurer, and E. E. Hooper, Richmond, Va., secretary.

According to a dispatch from Texas, the Cattle Raisers' Association of that State has determined to have more facilities for the transportation of live stock, and is considering the formation of a stock company to be known as the Cattle Raisers' Co., for the purpose of building cars especially adapted to its needs. A number of large stock growers have taken subscriptions. The total amount of bonds to be issued is calculated at \$800,000. The company expects to construct about 500 cars at first. Among those interested are J. B. Wilson, E. T. Homer and R. J. Cleburn, also the Childress Loan & Cattle Co., of Childress, Texas.

## RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### The Arkansas Railroad Project.

In a recent issue the Manufacturers' Record referred to the bill authorizing the use of convict labor in Arkansas for railroad building. The work is to be done under the supervision of what might be termed the State board of promotion. This board will consist of the governor, secretary of the state, auditor, attorney-at-law and commissioner of mines. The substance of the bill which has been passed by the senate is as follows:

"It shall be the duty of the board to open subscription lists for the donation of funds or property to be used for preliminary work and the construction of railways. It shall outline as nearly as possible a north and south and east and west line of railroad through the State, or such other lines as it may see fit to locate, and shall give notice in such a manner as it may deem efficient of its readiness to accept donations of money or property to be used in preliminary or construction work. Whenever the donations or public subscriptions for a line of railway designated by the board shall be adjudged by it to be worth the sum of \$100,000 in cash, the board shall accept said donations and said subscriptions."

This measure is a result of agitation with a view of constructing a railroad line to extend from the terminus of the Little Rock & Memphis Railroad across the State to Fort Smith, and possibly further into the southwest. Among those who have been interested in the matter is H. L. Brinkley, of Memphis, Tenn. It is understood that the plans have received hearty encouragement in Memphis, also from the Little Rock & Memphis Railroad Co., as it would make Memphis the terminus of an important east and west railroad system. Such a line would also give Little Rock additional railroad facilities and place it on an important chain of railroads between the Mississippi river and the West and Southwest.

### San Antonio to Galveston.

The idea of connecting Galveston and San Antonio by a shorter railroad line has been taken up by two different companies, with a view of building such a road. As is well known to the readers of the Manufacturers' Record, the San Antonio & Gulf Shore Company, which owns about thirty miles of line out of San Antonio, was formed for the purpose of building the road to Galveston or some other point on the Gulf of Mexico. This company, however, went into the hands of a receiver, and has recently been reorganized. The other projects are being promoted by Uriah Lott, who is well known as a promoter of railroads in the Southwest, and by the Galveston, Brazos & Southwestern Railroad Co., at the head of which is L. P. Featherstone, general manager of the Gulf & Interstate line. Mr. Lott has recently made a proposition to the Chamber of Commerce of Galveston to build a road to be 220 miles long. Mr. Lott calculates to organize a company with \$600,000 capital, and desires a subscription from Galveston of \$50,000 to the railroad company.

The Galveston, Brazos & Southwestern road has already surveyed a line through Watagorda and Brazoria counties, in the State, and, according to a statement from Mr. Featherstone, expects to have its terminus at San Antonio. This line will practically be an extension of the Gulf & Interstate, and will give that railroad company a route

from Beaumont, in the southeastern portion, through one of the most fertile sections of Texas to San Antonio.

### More Illinois Central Projects.

According to a dispatch from New Orleans, La., the Illinois Central Railroad Co. has determined to make further improvements to its terminals in that city, and will erect another elevator, as well as sheds and warehouses. It is stated that the company has determined to extend its line of wharves further down the river front, and to build sheds over them in order to protect its freight intended for export. It is also stated that the plans include a warehouse to be 1200 feet long and 100 feet wide, and one story high. It is to be constructed of brick, with slate roof, and to contain enough tracks to allow the unloading of cars on the platforms within it. Another warehouse to be constructed is to be 600 feet long and 100 feet wide, which will be practically fire-proof, the materials consisting of brick and slate, with steel interior work. It is stated that James Stewart & Co., of St. Louis, the well-known contractors, have prepared plans for the elevator, which is to be a duplicate of one now owned by the Illinois Central, which, as readers of the Manufacturers' Record are well aware, is one of the finest in this country. The new elevator is to be of the same capacity as the other.

These improvements are in line with the statements which the officers of the Illinois Central have made within the past few months—that their constantly-increasing export business required extra facilities. The company will expend a large amount of money in order to complete them, and New Orleans will again receive the benefit.

### Mobile & Birmingham.

The Mobile & Birmingham Railroad Co. announces that it has made arrangements to establish a steamship service between its terminus at Mobile, Ala., and Tampico, Mexico, by way of the Mexican Gulf Steamship Line. The first vessel of the line will leave Mobile about June 3, and sailings will continue every two weeks. The time between Mobile and Tampico will be seventy-two hours. The vessels will have accommodations for passengers as well as freight.

According to a dispatch from Mobile, Ala., the Mobile & Birmingham Railroad Co. has determined to increase its terminal facilities on tide-water, and will erect sheds 218 feet long and fifty feet wide especially for cotton. An additional slip to be 356 feet long and 110 feet wide will be dredged along the company's property to a depth of twenty-three feet. Contracts have been let for a portion of the work. The increased facilities of the Mobile & Birmingham will give it a storage capacity for about 15,000 bales of cotton.

### May Build to Signal Mountain.

For sometime past representatives of the Chattanooga Company, Limited, have been in this country examining the property in the vicinity of that city owned by the company. As a result of this examination it is reported that an engineer has been employed to survey a railroad line to reach the coalfields at Signal mountain and connect them with the city. It is understood that the engineer will also make a report as to the cost of a water-works plant for North Chattanooga. The Chattanooga Company, Limited, is a corporation in which English people are heavily interested. T. J. Nicholl is the manager of the company. The engineer which has been selected for the investigation is M. D. Miller, of St. Paul, Minn.

### A TRAVELING INDUSTRIAL SCHOOL

#### The Seaboard Air Line to Instruct People Along Its Route in Economical Methods.

The latest feature which has been decided upon by the Seaboard Air Line in its policy of developing and increasing the prosperity of that portion of the South traversed by its several railroads is a course of instruction in what might be termed agricultural and domestic economy to be given to the people of the several communities along the system. The object of this course of instruction is to educate farmers and village people as well, in the best modes of preserving fruits, vegetables, etc., in making food products of the best kind for use or sale and instructing them in a hundred details the knowledge of which will tend to make them economical and thrifty.

Mr. John T. Patrick, the industrial agent of the Seaboard Air Line, thus describes the plan for the Manufacturers' Record:

"A train of cars is now being fitted up for the purpose of visiting every point on the Seaboard Air Line. Lessons will be given by experts, who will accompany this train, in canning both in tins and glass, in the best modes of pickling and preserving what can be preserved from the farm or garden. Expert butter-makers will explain the cheapest and best methods for making this product and the use of labor-saving machinery in all cases where such apparatus can be utilized.

"We expect to give one day's instruction in each town to six men and six women to be selected for the purpose from the particular community. They will be called special pupils, and after being thoroughly instructed, will, in turn, give general information to the other residents in these particulars. While a specified number will be selected for instruction, the train will be open to all who desire to visit it and examine the methods for themselves, also the machinery and other apparatus. The train will form a sort of industrial school, and in addition to oral instruction, pamphlets and other material will be issued for the same purpose. We invite manufacturers of all machinery that can be used on the farm and in the homes of the people, through the Manufacturers' Record, to send samples and we will have it exhibited free of cost. If the manufacturers desire to send some person to show them the machinery, we will give the representative free transportation, the only expense attached to be board and sleeping-car fare. We cannot display factory machinery, but only that which is needed by farmers."

It is stated that the Seaboard Air Line is the first to inaugurate such an elaborate system of practical instruction. Several years ago the Canadian government undertook to educate the people of the Dominion in butter-making, and, it is claimed, spent \$50,000 on a plan in which horses were used to carry butter-making devices from town to town. It will be noticed from Mr. Patrick's description that the scheme of the Seaboard Air Line is much more elaborate and complete in its details and should accomplish great results. As the Seaboard Air Line and its branches comprise nearly 1000 miles of railroad lines, the magnitude of the undertaking can be appreciated.

### May Enter Charleston.

According to a dispatch from Charleston, S. C., the Charleston & Western Carolina Company is making arrangements with the Plant system by which it will gain entrance into Charleston over the Charleston & Savannah division of that system. By the terms of the ar-

rangement, it is stated, both companies will use the Charleston & Savannah road between Charleston and Yemassee, S. C. If this arrangement is consummated, Charleston will be the terminal point of a large amount of additional traffic, much of it export, which will be to its advantage.

### Ohio River and Charleston.

Relative to the report that Messrs. J. P. Morgan & Co. have been examining the Ohio River & Charleston Railroad with a view of completing the gap between its sections in North Carolina and Tennessee, the Manufacturers' Record has received a letter from President Samuel Hunt, in which he says there is no truth whatever in the statement.

It is stated, however, by a correspondent of the Manufacturers' Record, that an examination has been made of the right of way by Northern parties, who may take up the matter independently of Messrs. Morgan & Co. We learn from a reliable source that arrangements were made sometime ago for a railroad expert to examine the line of the Ohio River & Charleston, and if favorable report was made, the money would be furnished to complete the system from the Ohio river to Charleston. The Manufacturers' Record correspondent states further that the line would be built to Sumter, S. C., and that it would form an outlet for a large tract of timber land, which has been examined with a view of development.

### K. C., P. & G. Terminals.

President A. E. Stilwell, of the Kansas City, Pittsburg & Gulf Company, writes the Manufacturers' Record that at the present rate of construction it is expected to have the system in operation to Port Arthur by August 1. He states that the company has arranged for lighters to carry freight from Port Arthur to deep water until the ship canal is completed to the company's docks. He is also authority for the statement that a large grain firm will construct an elevator at Port Arthur, and it is expected that another elevator will be built as soon as the company is able to handle the export business. There is no intention, he says, of extending the line to Sabine Pass. The road is to terminate at Port Arthur on Sabine lake, which will be connected with deep water by the ship canal already referred to.

### Changed to Standard Gage.

The Norfolk, Virginia Beach & Southern Railroad Co. has completed the work of changing its line from narrow to standard gage, and train service on the reconstructed line has begun. As a result of this improvement, trains can be run solid to Virginia Beach without change from any portion of the Norfolk & Western system and its connections, as a junction has been effected between the two roads.

The Norfolk, Virginia Beach & Southern has purchased twenty-five cars, a portion of them especially designed for summer service. They are of the most modern type of construction, and artistically painted and decorated. A time schedule has been prepared, by which trains run nearly every hour to Virginia Beach, which is located on the Atlantic coast less than an hour's ride from Norfolk.

### Another North and South Project.

According to a dispatch from Topeka, Kans., Governor Leedy, of that State, has taken up the project to build another Northern and Southern railroad line to connect the Western grainfields with the Gulf of Mexico. According to the governor's calculation, the road will be

about 1000 miles long, and can be built for about \$12,000 per mile. He expects to obtain the assistance of land-owners along the right of way, as well as farmers and grain shippers. He expects to arouse the interest of the people of Texas and to secure convict labor from that State for building the road; also a State loan to be secured in bonds of the new line.

#### Southern's Bright Outlook.

A dispatch to the Boston News Bureau says: "The Southern Railway has two months more of its fiscal year to come, and these two months are usually good ones. Net earnings are likely to be more than sufficient for all charges. The fixed charges have practically been earned in the ten months, and other income ought to be more than sufficient to meet the rentals. This would leave a surplus of practically the net earnings of May and June. In view of Mr. Morgan's arrival in this country early next month, and the general favorable outlook South, good judges were inclined to feel favorably disposed toward purchases of Southern Railway preferred."

#### English View of Illinois Central.

The announcement of the Manufacturers' Record that the Illinois Central Railroad has succeeded in placing over \$30,000,000 worth of bonds on the market at only 3½ per cent. interest is the subject of extended comment in the London Statist, one of the most conservative financial authorities in the world. The Statist devotes considerable space in its issue of May 15 to the condition of the Illinois Central. After reviewing the plan by which the issue is to be placed, the Statist says:

"Beyond the saving in interest from these operations, and provision for further capital requirements, the company will effect a saving of some \$92,000 by its renewal at 3½ per cent. of the 6 per cent. Springfield Division bonds and the 7 per cent. Chicago, St. Louis & New Orleans bonds. Apparently, therefore, the fixed charges of the company will be reduced some \$300,000 or \$400,000 by the whole operation. The issue of the additional bonds secured on the other branches will, of course, again bring the fixed charges up to their previous level, but the expenditure of a large amount of money on the lines should correspondingly increase their earning capacity. For the year ended June 30, 1896, the net profit of the Illinois Central amounted to \$3,185,000. In the nine months to the end of March the net earnings of the company have declined about \$600,000, and supposing that the net earnings of the remaining three months of the year equal those of the corresponding period of last year, the net profit of the twelve months to June 30, 1897, will amount to about \$2,500,000. To pay the 5 per cent. dividends on \$2,500,000 of ordinary stock requires \$2,625,000, and consequently the net profit would fall slightly short of the full 5 per cent. At June 30, 1896, however, the company brought forward a balance in the surplus dividend fund of \$921,000, and any deficiency will be provided from this fund."

"The Illinois Central Company has weathered the depression almost better than any other American railroad, and owing to its good credit it has been able during the crisis to make an important addition to its system at a cheap price. At the present time it is actively pushing for business, and is able to successfully compete with the trunk lines running from Chicago to New York for grain traffic for export. The port of New Orleans has been greatly improved, and the system generally has been reorganized,

with a view to obtaining a larger share in the through traffic between the grain States and Europe. Hence the price of the stock at 95½, with a regular 5 per cent. dividend earned during the depression, and with the prospect of a higher rate when business revives, is a security which should attract the attention of those willing to take the risk of investments in an American railroad undertaking."

It is certainly a high compliment to the Illinois Central's management that such a publication as this should allow itself to so strongly endorse an American Railroad bond issue at a time when public opinion in some quarters in England is so averse to investments in this country.

#### Through Service from Louisville

The Louisville & Nashville and Louisville, Henderson & St. Louis railroads have made a traffic agreement by which a new route is formed between Louisville and St. Louis. It is to be known as the Henderson route, and a double daily passenger train service will be put in operation over it.

It is also stated that the Louisville & Nashville and Southern Railway companies have made arrangements for another freight service between Louisville and cities in the Mexican republic. Freight is carried to Mobile, thence transported to Mexico by way of the Mexican Gulf Steamship Line, which has been established in connection with the Mobile & Birmingham road.

#### Savannah's Street Railways.

It is stated that arrangements for the consolidation of the street railway companies of Savannah, Ga., have practically been completed, and that a consolidated company will be formed with Geo. Parsons as president, and J. H. Fall, of Nashville, Tenn., as vice-president. By the terms of the consolidation, the Savannah Traction Co. will practically go out of existence. The owners of its securities will receive consolidated bonds in return for their stock. A number of street railroad lines which are parallel will be abandoned by the company after the new agreement goes into effect.

#### To Inspect the Texas.

By order of Assistant Secretary of the Navy Roosevelt, the members of the Railroad Master Mechanics' Association will have an opportunity to inspect the engines and other machinery of the battleship Texas at Hampton Roads during the meeting of this association. One reason for the examination is on account of the fact that the plan of the compound locomotive as constructed at the Richmond Works was first suggested in building the engines of the Texas. As is well known, the Richmond Locomotive Works has had remarkable success with the compound type of locomotive. It also furnished the engines and other apparatus for the battleship, which, at the time it was completed, were fully described in the Manufacturers' Record.

#### A Report Denied.

Mr. E. L. Corthell, the consulting engineer for the proposed railroad bridge across the Mississippi river at New Orleans, in a letter to the Manufacturers' Record authorizes it to state that the report that the bridge is to be built in the near future is entirely unauthorized and erroneous. Mr. Corthell is at present in London.

#### Railroad Notes.

The Hamilton Railway Syndicate of St. Louis, which controls a number of street railways in the city and suburbs,

has ordered eighty cars for its passenger service.

O. H. Poehler has been appointed commercial agent for the Kansas City, Pittsburg & Gulf Railroad Co., with headquarters at Shreveport, La.

The steamship line which is to begin sailing between New York and Galveston on July 1 is to be termed the Lone Star Line. The schedule at present is to be one steamer a week between each port.

A dispatch from Jacksonville, Fla., states that Frank J. Brown has been elected third vice-president of the Plant Railway & Steamship Co., succeeding D. F. Jack, who will act solely as freight traffic manager of the system.

Governor Atkinson, of Georgia, has advertised the sale of the Northeastern Railroad of Georgia to take place on June 21. Bids will be received until 4 o'clock P. M. on that day. No bid for less than \$287,000 will be received.

Vice-President Frank S. Gannon, of the Southern Railway Co., announces that the office of superintendent of car service of the Alabama Great Southern division has been abolished, and that E. A. Wickersham, superintendent, will in the future assume the duties.

The new line of steamships to be operated between Charleston and Europe will be controlled by a company to be known as the Charleston Transportation Line, which has been incorporated in New Jersey with \$200,000 capital. Messrs. Street Brothers, of Charleston, and Simpson, Spence & Young, of New York, are representatives of the company.

A car has just been completed for General Manager Green, of the Baltimore & Ohio, which is one of the finest private cars ever turned out of a railroad shop. It is divided into seven apartments, including library, dining and sleeping departments, also kitchen and pantry. It is elegantly furnished and beautifully decorated, the interior being painted in the standard color of the company, blue.

In its handsome lithographed cover, "Summer Excursion Routes for 1897" has been issued by the Pennsylvania Railroad. The cover pictures well illustrate the range of the opportunities presented by the routes for various tastes, and resorts of island, lake, seashore and mountain reached by the road are in addition illustrated by many half-tone engravings, which make the volume attractive to anybody. It is sold for the nominal sum of ten cents.

A Savannah dispatch announces that the Merchants & Miners' Transportation Co. has made arrangements to use the wharves of the Ocean Steamship Co. in that city, and that the latter company will increase the number of steamships in service between Savannah and New York. There is a possibility that the Philadelphia and Savannah line will be discontinued and the vessels, which have heretofore run to Philadelphia, will be placed on the other route.

An interesting pamphlet has been issued by the Central of Georgia Railway Co., descriptive of the system and many of the chief industries along the lines. It is entitled "Southern Scenes," and contains about ninety pages. The growth of the system, from the organization of the company to the present time, is told in detail. Besides the reading matter relative to the history of a portion of the Southern territory, the book contains a number of excellent illustrations of interest.

The Kansas City, Fort Scott & Memphis Railroad Co., it is understood, has

determined to adopt the electric headlight for its passenger locomotives, and may adopt this headlight generally. It is now in use on a number of Southern lines, and thus far has given satisfaction. It is especially valuable in sections where there are no fences along the right of way, as it enables the engineer to see at a distance live stock which may have strayed upon the track and thus avoid the danger of striking them.

W. C. Petty, manager of the Carthage Railroad Co., in a letter to the Manufacturers' Record, states that it has been decided to extend this road about twelve miles to a point on the Deep river, near Prosperity, N. C. He states that there is an excellent water-power on the Deep river near the terminus, and it is hoped that one or more cotton mills may be built at this point in the near future. It is stated that convict labor will be secured to do the grading of the line. The Carthage Railroad, which is a feeder of the Seaboard Air Line, is now in operation between Cameron and Curriersville, a distance of twenty-one miles.

#### Industrial News from Birmingham.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., June 1.

The market in iron improved the past week, the sales, in amount, being about double those of the preceding week. There has been no change in prices, which are on a basis of \$6 for gray forge. While in a few instances concessions have been granted, the market has been pretty well held at published quotations. Information comes from an authoritative source that the Sheffield furnaces have advanced prices twenty-five cents per ton, and will maintain advance. This indicates that stocks have been reduced to a satisfactory point, and affords ground for the belief that a better parity of prices will prevail. The Woodward, Pioneer and Sloss companies have each but one furnace in blast. In, say, ten days the repairs on one furnace each of the Sloss and Pioneer companies can be completed. But it will be several weeks before the other furnaces now out of blast will be ready for business. The export trade continues steady, with a moderate demand, and some nice lots have been placed at satisfactory prices, notably one for 2000 tons. The trade has reached that point where, the quality being known, the price only is the point considered. The minor industries show no improvement in the way of new outside orders, and there is nothing of consequence concerning them to mention.

Arrangements were concluded last week for the installation of a fertilizer factory by South Carolina and Georgia parties. The main buildings will be one 100x400 feet and one 50x300 feet, besides boiler-room and other secondary buildings. The cost of the plant is estimated at \$60,000. The capital stock is \$100,000. It is worthy of mention that the projectors not only did not ask any aid of any kind from the city, but actually declined an offer to take \$10,000 of the stock. Mr. Exum, of Charleston, S. C., is the resident manager, and he will at once remove his residence to this city.

In the line of building there is more or less activity in every part of the city. In the heart of the city a five-story building for the drug trade is under way, and another fine building for the dry-goods trade will be completed by the coming fall. There is more or less complaint of hard times yet, but one cannot be blind to the fact that the improvements going on must put a nice amount of money in circulation. It simply hasn't permeated through all the business and social strata.

J. M. K.

## LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

## LUMBER MARKET REVIEWS.

## Baltimore.

Office Manufacturers' Record,  
Baltimore, Md., June 3.

There is no material change in the local lumber market, and conditions today are similar to those reported a week ago. The demand in nearly all departments is moderate, and prices about steady. In air-dried lumber sales have been better during the week, and the demand from boxmakers and yardmen is improving. There is considerable business in kiln-dried North Carolina yellow pine, and a number of good orders are being filled. The market for white pine is quiet and steady, with a fair movement in certain grades. Cypress is dull, and prices about steady. In the hardwood line the demand continues light, both in a local way and from out-of-town buyers. There is very little doing in the export line, and shippers are awaiting a better market in Great Britain and the Continent.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

**VIRGINIA AND NORTH CAROLINA PINE**

5-4x10 No. 2, kiln dried.....	\$12 50@ 13 50
5-4x12 No. 2, kiln dried.....	14 00@ 15 00
4-4x10 No. 1, kiln dried.....	15 00@ 15 50
4-4x12 No. 1, kiln dried.....	15 50@ 16 50
4-4 nar. edge, No. 1, kiln dried.....	18 00@ 14 00
4-4 wide edge, No. 1, kiln d'r'd.....	17 00@ 18 00
6-4x10 & 12, No. 1, kiln dried.....	23 00@ 24 00
4-4 No. 1 edge floor, air dried.....	18 50@ 14 50
4-4 No. 2 edge floor, air dried.....	10 50@ 11 50
4-4 No. 1 12-in. stock, air dried.....	18 50@ 16 50
4-4 No. 2 12-inch stock.....	12 50@ 13 50
4-4 edge box or rough wide.....	7 50@ 8 50
4-4 edge box do. (ord. widths).....	6 50@ 7 50
4-4 12-inch rough.....	9 00@ 10 00
1/4 narrow edge.....	5 50@ 6 50
1/4 wide.....	6 50@ 7 50
1/4x9 1/2 and 10 1/2-inch.....	8 50@ 9 00
Small joists, 2 1/2-12, 14 and 16 long.....	7 50@ 8 50
Large joists, 8-16 long and up.....	8 00@ 9 00
Scantling, 2x3, 2x4 and 3x4.....	7 00@ 8 00

**WHITE PINE**

1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.....	\$47 00@ 48 00
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 00@ 43 00
Good edge culls.....	14 50@ 15 50
Good stock.....	16 50@ 17 50

**CYPRESS.**

4-4x6, No. 1.....	\$19 50@ 20 50
4-4x6, No. 2.....	13 50@ 14 50
4-4x6, 16 feet, fencing.....	10 00@ 11 00
4-4x6, rough.....	8 50@ 9 00
4-4 rough edge.....	8 00@ 8 50
4-4 edge, No. 1.....	16 00@ 17 00
4-4 edge, No. 2.....	12 00@ 13 00
Gulf, 4-4, Nos. 1 and 2.....	25 00@ 29 50
Gulf, 6-4, Nos. 1 and 2.....	28 00@ 30 00

**HARDWOODS—WALNUT.**

5-8, Nos. 1 and 2.....	\$65 00@ 75 00
4-4, Nos. 1 and 2.....	90 00@ 90 00
5-4, 6-4 and 8-4.....	85 00@ 95 00
Newell stuff, clear of heart.....	85 00@ 100 00
Culls.....	20 00@ 30 00

**OAK.**

Cabinet, white and red, Southern, plain-sawed and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	\$30 00@ 34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@ 55 00
Culls.....	10 00@ 15 00

**POPLAR.**

Nos. 1 and 2, 5-8.....	\$24 50@ 25 50
Nos. 1 and 2, 4-4.....	28 00@ 30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@ 33 50
Culls.....	11 50@ 12 50

**SHINGLES.**

Cypr., No. 1 b'nts, sawed, 6x20	\$6 25@ 7 00
No. 1 saps, sawed, 6x20	4 75@ 5 00
No. 1 hearts, shaved, 6x20	6 00@ 7 00
No. 1 saps, shaved, 6x20	4 75@ 5 00

**LATHS.**

White pine.....	\$1 85@ 2 00
Spruce.....	2 00@ 2 10
Cypress.....	1 50@ 1 80

## Norfolk.

[From our own Correspondent]  
Norfolk, Va., May 31.

The month just closed has shown increased activity in almost every avenue of the lumber industry, and at the moment the demand is quite pronounced in character. The indications are now much more encouraging, and mills in many cases are sold in advance of their cut, especially on all the choice grades. The demand for export has shown a marked improvement, and all choice lumber for European markets is well sold up, while there are a number of new orders

received during the past week which will absorb the cut of several mills for some days to come. Manufacturers are generally of the opinion that the worst is over, and that trade now will take on more satisfactory results. Prices, no doubt, will advance on certain grades of lumber as the demand from Northern sources is now in some cases quite urgent and stocks are by no means excessive, but on the other hand badly assorted in certain sections. Air-dried lumber is improving in the demand, and box lumber is more called for, as the canning season is now open. Four-quarter one and two-edge is in active demand, with stocks light. There is no material improvement in dressed lumber, and planing mills are generally running on three-quarters or full time, while the most of them are fairly well supplied with orders. Prices for dressed lumber show up somewhat better, and during the past week there have been reported several large sales at improved prices. The local demand for city improvements and from builders is just now quite active, and a large amount of lumber and other building material will go into consumption during the summer. All woodworking concerns are generally employed, and report the outlook encouraging for a good season's business. The freight market for lumber is steady, with a moderate offering of handy-sized tonnage. Rates to New York and vicinity are \$2.10 to \$2.15, and to Boston, \$2.50 to \$2.75.

## Charleston.

[From our own Correspondent]  
Charleston, S. C., May 31.

The general market is rather quiet, and along the water front business is assuming the usual dull midsummer character. The market in lumber keeps up, however, and shipments are going forward as usual, but the volume of business in nearly all departments of the lumber industry is only moderate. The demand is principally from Northern points, and very little foreign business is being done. At Georgetown and other milling sections there is considerable activity. At the Gardner & Lacey Lumber Co.'s mills, at Georgetown, vessels were loading for Baltimore with lumber and shingles, and at Smith's mills, on the Pee Dee river, a cargo of lumber and shingles for New York left last week, and also one from Jacob Savage's mill. Prices for nearly all grades of lumber continue steady, with a narrow margin of profit. At the close of business on Saturday quotations were reported as follows: Merchantable lumber, \$14 to \$16 for city sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. The demand for shingles is brisk, and prices are firm at \$5 to \$7 per thousand. Among the clearances from this port last week were the following vessels: Schooner Mary Jeness for Port Antonio with 7000 feet of lumber; barkentine Nellie M. Slade for Boston with 401,000 feet of lumber; schooner Nellie W. Howlett for Baltimore with 425,000 feet, and barkentine E. S. Powell for New York with 467,648 feet. The total shipments of lumber from this port from September 1, 1896, to May 28, 1897, amounted to 45,036,574 feet coastwise and 1,475,000 feet foreign, making a grand total of 47,411,574 feet, against 56,661,502 feet for the corresponding period last year. The market for lumber freights is steady, with a moderate demand for handy-sized vessels, and rates not materially changed. Rates to New York are quoted \$4.38 to \$4.50, and dry lumber to Providence, R. I., \$4.50; crossties are quoted at 14 to 14 1/2 cents each, and oak ties, 19 cents. The

schooner Spartan cleared for Perth Amboy with 440,000 feet of lumber.

## Savannah.

[From our own Correspondent]  
Savannah, Ga., May 31.

The demand for lumber has been quite pronounced during the past week, and the month closes with an active market in nearly every department of the lumber industry. The shipments during the week will reach about 4,500,000 feet, and the prospects for a good trade during June are very favorable. From the nearby Georgia ports of Darien and Brunswick the lumber and timber trade is reported active, with conditions surrounding these markets more favorable. At all interior points in the southern section of the State lumbermen report a better movement, while stocks at mills in some cases are generally light and barely sufficient to supply the demand. Prices are firm and for certain grades are reported a shade higher. At the close of business in the local market on Saturday the following quotations were current: Ordinary sizes, \$11 to \$12; difficult sizes, \$13 to \$18; flooring boards, \$15 to \$22; ship-stuff, \$16.50 to \$20, and sawn ties, \$10. Shipments of crossties have been quite liberal, and the demand from Northern points is fair. During the past week the following vessels cleared with lumber and other wood products: Schooner Adele Thackera with 285,571 feet of lumber and 4551 crossties, measuring 203,073 feet, and the schooner Charles H. Valentine with 468,170 feet of lumber, both for New York; schooner Harriet C. Kerlin for Wilmington, Del., with 401,721 feet; schooner A. D. Lawson for Philadelphia with 310,743 feet; schooner Island City with 111,951 feet of switch ties and 39,098 crossties, measuring 178,411 feet; schooner Grace Bradley with 289,158 feet of lumber and 2246 crossties, measuring 100,223 feet, and schooner F. T. Lupton with 19,119 crossties, measuring 718,772 feet, all for New York. The schooner Frank Vanderherchen cleared for Philadelphia with 411,134 feet of lumber. New York steamers took out 156,822 feet of lumber, and Baltimore steamers 522,360 feet. There is a good demand for handy-sized vessels, and lumber freights continue firm, with rates not materially changed. From this and nearby ports in Georgia the rates are \$4 to \$4.50 for a range including Baltimore and Portland, Maine. Railroad ties, basis 44 feet, 16 cents; timber rates 50 cents to \$1 higher than lumber rates. To the West Indies rates are nominal; to Rosario, \$12 to \$13; to Buenos Ayres, \$10 to \$11, and to Rio Janeiro, \$14.

## Pensacola.

[From our own Correspondent]  
Pensacola, Fla., May 31.

The market during the past week has been quite active, and lumber and timber shipments still continue liberal. There is at present a good stock of timbers on hand, and prices continue about steady, with no prospect of any immediate advance. There is a fair demand for timber, and latest advices report the market in Great Britain as about steady, with stocks somewhat reduced at primary points. Late sales of Pensacola pine were at fair figures, and the indications are that the market will improve later on. Shippers here have confidence in future outlook, and holders are not willing to sell freely at present figures. The movement in lumber here is much better, especially for the better grades, which are being freely shipped to Europe. At the various milling points there is more activity than usual, and stocks in some cases are being rapidly absorbed by the current demand. Prices in some cases are higher and the general list of values

very steady. Among the shipments during the week the following were reported: Bark Elriar Tambarksjelver for London with 679,000 feet of sawn timber and 8000 feet of lumber; steamship Falham for Alexandria, Egypt, with 1,330,000 feet of lumber; steamship Lesbury for West Hartlepool with 310,000 feet of sawn timber and 1,440,000 feet of lumber; steamship Sliedricht for Trieste with 1,150,000 feet of lumber and 330,000 feet of sawn timber; steamship Cydnia for Brake with 440,000 feet of sawn timber and 526,000 feet of lumber; bark Loretta for Marseilles with 373,000 feet of sawn timber and 84,000 feet of lumber; steamship Lonaconing for Trieste with 1,260,000 feet of sawn timber, and steamship Manteo for Progresso with 7952 crossties and other merchandise. Among the charters reported in New York during the past week were the following: A British steamer, 1767 tons, from Pensacola to Alexandria with sawn timber at 115—May; British steamer Oberon, 1763 tons, from Pensacola to Genoa with timber on private terms—June.

## Mobile.

[From our own Correspondent]

Mobile, Ala., May 31.

A fairly active market has ruled here during the month just closed, and the lumber and timber industry, while in a more satisfactory condition as to volume, is still suffering by a depression in values. In the timber market stocks are ample for the demand, especially in sawn timber, and prices at the close are a shade firmer. Holders, as a rule, are firm in their views and are not anxious sellers, preferring to await future developments from the United Kingdom and Continent. Sawn timber, when placed upon the market, will bring 10 1/2 cents per cubic foot, 40-foot basis, while contracts are made at about the same figure. There is a fair demand for cypress at 5 to 8 cents per cubic foot, according to the average. There is very little demand for round poplar, oak or hickory logs. Cedar is dull at 20 to 30 cents, according to quality and size. Pine saw logs are in fair demand at \$5 to \$7.50 per 1000 feet delivered at the mill. There is a moderate demand for hewn timber at 10 to 12 cents per cubic foot, basis of 100 cubic feet, average B1 good, while the contracting price is nominal. The lumber trade is fairly active, and while prices are firm, they still show very little margin of profit to the manufacturer. There is a good inquiry at present from South America and some good orders have been received from that market during the month. Advices from all milling points adjacent to this port are encouraging, and in yellow pine the market is active, while mills generally have orders sufficient to keep them operating on full time. Timber lands are in good request, and new deals are reported almost daily of valuable timber tracts to be opened for development. A large transfer of Baldwin county real estate was made last week, whereby W. H. Byrne & Co. conveyed to the Christian & Craft Co., of this city, 3000 acres of land near Stockton, together with about 2750 pine logs and other material for logging purposes, the consideration being \$12,397.34. The shipments of lumber last week from this port aggregated 1,502,000 feet, as follows: Bark Minzapore for Buenos Ayres with 837,195 feet; steamer Harold for Bocas del-Toro with 10,018 feet; schooner Georgiana for Cayman with 24,000 feet; steamer Condor for Bluefields with 80,193 feet. The bark Garfield cleared for Falmouth, England, with 520,124 feet, and the ship Stalwart for Liverpool with 34,484 cubic feet of sawn timber, 46,573

cubic feet of hewn timber and 30,500 superficial feet of lumber. Freights on lumber and timber are steady, with a moderate inquiry for desirable tonnage and rates unchanged.

#### Beaumont.

Beaumont, Texas, May 29.

The lumber situation this week shows some improvement over the conditions which have characterized it for the past few months. Inquiries received at the various mills from dealers indicate that the yards throughout the State, encouraged by crop prospects, are again ready to replete their stocks. A slight increase of orders from the interior is also noted. The lumbermen's meeting held in Beaumont this week was very largely attended, and did much to restore the millman's hopes. The general attention attracted to the meeting may be judged from the fact that about twenty-five mills were represented. A general discussion of trade topics characterized the fore part of the meeting, and was followed by reports from the various committees appointed to collect data from visiting lumbermen. One of the most encouraging facts elicited was the report of very generally broken stocks at mill yards. It is learned that stocks now are very much less than a year ago. Many of the mills represented have been operating on short time, but a movement is being pressed to cut down to two-thirds time for the next month or two. It is thought that by so doing much of the lumber now on the yards which does not meet with trade demands on account of being undesirable lengths could be forced out on the market. Manufacturers were sufficiently encouraged to move an advance in prices, and revised price-lists will appear before long. An advance of \$1 per thousand is recommended on 2x4-6-8, etc., and a proportionate increment will be given to other sizes. A general expression was also made showing that mills will hold back so long as the present rates continue. A committee was also appointed to represent the milling interests of this section at the meeting of Arkansas and Missouri lumbermen, which will be held in Hot Springs the first week in June. The meeting was adjourned until June 24, when another session will be held in Orange.

There is some improvement in the demand for railroad material, but the shingle market remains very quiet, and no shingles are being cut either here or at Orange.

There has been an increased activity in the export line, due to the arrival of several vessels at Sabine Pass, and the list of charters for next month's delivery indicates an awakening at the Sabine wharves.

One of the largest cargoes ever cleared from Sabine Pass left that port last Monday. The load showed a total of 2,508,000 feet of lumber, which will be carried to Greenock, Scotland, by the steamship Jeanera. W. F. F.

#### Lumber Notes.

The schooner Mary A. Randall, a four-master, recently cleared from Fernandina, Fla., with 21,000 railroad crossties, measuring 937,000 feet.

The contents of the lumber-yard of the Blakely Variety Works, at Blakely, Ga., was destroyed by fire last week, involving a loss of \$2000, with no insurance.

The Victoria Lumber Co., of Victoria, Texas, it is stated, has had such success that it is filling contracts for interior work for residences in Massachusetts and other States.

It is stated that J. F. Maull, of Elmore, Ala., contemplates erecting a large saw mill on an immense tract of timber land owned by J. F. Anderson, of Birmingham, Ala., near Homerville, Ga.

Dr. J. C. Watts, of Cave Springs, Ga., will shortly commence the erection of a lumber plant at or near Centre, Ala. Lath and shingle machines will also be operated in connection with the mill.

The factory of the Carolina Cooperage and Veneer Works, at Fayetteville, N. C., of which Col. W. S. Cook was recently appointed assignee, will not be shut down, as reported, but will continue to operate as usual.

The saw mill, with machinery and about 5000 feet of lumber, owned by the Leavenworth Lumber Co., of Greenville, Miss., was destroyed by fire on the 25th ult. The loss is estimated at \$10,000, with no insurance.

Large rafts of timber have been towed into Georgetown, S. C., during the past fortnight from the Santee river; none of it, however, coming through the new canal, as that waterway has not yet been opened to navigation.

A charter was granted last week to the Ridgeville Spoke & Handle Manufacturing Co., of Ridgeville, S. C. The capital stock of the company is \$2000. The incorporators are Thomas Lebby and Edward H. Hutchinson.

Mr. Eugene D. Blain, of the Southern Lumber & Supply Co., of Tampa, Fla., has purchased a controlling interest in the West Tampa Milling Co., and will succeed Mr. George R. Macfarlane as general manager of the company.

The machinery and saw-mill building of Allen Bros. & Wadley, at Allentown, La., was destroyed by fire on the 24th ult. The lumber and buildings of the company were saved. The loss is estimated at \$15,000 with insurance only \$8500.

The receipts of railroad crossties at Fredericksburg, Va., have been very liberal recently, and the demand from Northern railroads is not so pronounced. The yards of various dealers in that city are said to contain between 150,000 and 200,000 ties.

The schooner Joel Cook cleared last week from Fernandina, Fla., for Philadelphia with 320,000 feet of lumber, and the schooner May Adelaide Randall with 21,000 crossties. The schooner Pasadena arrived on the 26th ult. to load a cargo of lumber for J. A. Des Roches.

The mill and plant of the Jordan Lumber Co., at Mobile, was sold last week. The Southern Log Cart & Supply Co. was the purchaser of the mill for \$1050. Other purchasers of portions of the factory, stock and accounts were Hieronymous Bros., P. J. Lyons and I. E. Michael.

A transfer of land was made last week at Daphne, Ala., by W. H. Byrne & Co., of the Christian & Craft Co., of Mobile, of 3000 acres near Stockton, together with about 2750 pine logs in Baldwin and 800 in Mobile county, besides logging outfit, etc. The consideration named is \$12,397.34.

The Ocean Springs Saw Mill, at Ocean Springs, Miss., owned by Hieronymous Bros., of Mobile; J. B. Lyons, of Chicago, and E. J. Morris, of Ocean Springs, was, with the exception of the dry-kiln, totally destroyed by fire on the 24th ult. The mill was valued at \$10,000 with no insurance.

The plant of the National Boat Oar Co., of Chattanooga, Tenn., will be completed and ready for operation within a

few days. The plant will be equipped with the latest machinery to make everything complete from the rough log to the finished product. Mr. J. L. Conner will be the general manager of the factory.

Mr. L. W. Lloyd, timber purchasing agent for the Mexican Southeastern Railroad, passed through Orange, Texas, last week, and it is stated has been figuring with the saw mills in that section on a large bill of lumber for the Mexican road, which is to be built from the City of Mexico to the Guatemala boundary line.

During the overflow the Vicksburg saw mills made the most of the opportunities afforded for collecting a good supply of sawlogs. It is stated that they have now on hand 12,000,000 feet of logs, which will be cut into lumber. Of this stock of timber about 25 per cent. is hardwood and the remainder cottonwood and cypress.

The receipts of building material at New Orleans for the week ending May 27 were as follows: Lumber 1,582,000 feet, shingles 190,000, laths 160,000, oak staves 83,600 and cypress staves 24,000. The receipts of lumber for the season amounted on the 27th ult. to 57,145,000 feet, against 75,550,128 feet for the corresponding period last year.

It is said that the Linville River Railroad Co. is rapidly pushing the construction of its road from Cranberry, N. C., to Pinola, a distance of fifteen miles. At Pinola the Linville Lumber Co. has over 2,000,000 feet of lumber now ready for shipment. The company expects, when the railroad is completed, to erect a saw mill with a cutting capacity of 40,000 feet a day.

Mr. W. S. Tatum, president, of the Georgia Fruit Package Co., visited Americus, Ga., last week for the purpose of inspecting that city as a location for a branch factory. Mr. Tatum conferred with members of the Board of Trade, and was favorably impressed with the advantages offered. The company may build a factory in the near future at Americus, in order to be near a timber supply.

The Reliance Lumber Co., of Beaumont, Texas, is making the last shipments on its big order for the Sierra Madre Railroad. The original bill for this road called for about 14,000,000 feet of lumber and timber, but additions have been made to the bill at different periods until it reached 21,000,000 feet. The monthly shipments by the company averaged about twice as much as the original requirement.

The three-masted schooner Robert W. Dasey arrived at Palatka, Fla., on the 28th ult., to load 250,000 shingles, and the schooner J. S. Hoskins, on the 30th ult., to load 1,000,000 shingles, both from the firm of N. I. Tilghman & Sons, for Northern markets. A schooner of 220 tons was chartered in New York last week to load dry cypress at Palatka, Fla., for New York at \$4.50, option sound \$4.75, stone out.

The saw mills at Fleming, Barnum, Corrigan, Carmona, Jossenard and Groveton, Texas, on the Trinity & Sabine road, are all running. Orders for lumber are increasing and prices advancing, so that millmen in that section find it difficult to get prompt supplies of cars to fill their rush orders. At Rockland, Colmesneil, Warren, Hyall, mills are all running, and manufacturers regard the lumber outlook as more promising than for sometime past.

The Standard Manufacturing Co., of Augusta, Ga., is reaching out for a large share of foreign trade. In its special

line of work in sash, moldings, doors and other building material it is enjoying an extensive trade, and recently received from a large English house an order for 900,000 feet of molding and 1000 doors. The company is making extensive improvements in its plant. Mr. H. C. Perkins is president of the company, and Mr. George M. Hicks, secretary.

The new Cunner saw mill, which has been in course of construction at Jacksonville, Fla., is now about completed, and will probably be ready for operation this week. Connection is made between the mill and the Florida Central & Peninsular Railroad by a spur track, and the logs from the lands owned by the company in the central and western part of the State will all be brought over the Florida Central & Peninsular road. It is said that the Cunners will also run their own line of vessels between Jacksonville and the North.

Among the shipments for the port of Brunswick last week were the following: Bark Harriet S. Jackson for Colon with 311,000 feet of lumber; bark Arabi Maid for Amsterdam with 615,000 feet; bark Figaro for Rio Janeiro with 748,000 feet; bark Angelita for Barcelona with 460,000 feet; schooner Myra Weaver for New York with 433,000 feet. The Spanish bark Tuya cleared for Barcelona with 162,000 feet of lumber; the bark Progresso for Cartagena with 411,000 feet of lumber and 76,000 feet of timber; schooner Thos. W. Hyde for Baltimore with 203,000 feet of lumber and 60,000 shingles, and the schooner Frank W. Howe for Boston with 475,000 feet of lumber.

The Texas and Louisiana Lumber manufacturers met last week at Beaumont, Texas. Among those present were the following: J. A. Bentley, Zimmerman, La.; S. F. Carter, Houston; A. Gilmer, Orange; W. A. Starke, C. F. Panmewitze, Orange; George Law, Westlake, La.; J. B. Beatty, Lake Charles, La.; Charles Witler, Vinton, La.; W. M. Rice, Hyatt; Chester Brown, Lake Charles; T. J. Hooks, Sharon; H. Aldridge Rockland and representatives of Beaumont mills. A committee submitted a report, which demonstrated that all association mills had been running on an average of three-quarter time in the past, and suggested that in the future the mills be run on two-thirds time until the demand necessitated longer hours. The report was discussed at length, and it seemed to be the opinion of those present that for the next sixty days mills should not be operated over three-quarter time. Messrs. G. H. Mallam, of Beaumont, and Chester Brown, of Lake Charles, were appointed a committee to confer with the Arkansas-Missouri lumbermen, and the association adjourned to meet again in Orange on Thursday, June 24.

#### Wise Men

read the advertising pages of the Manufacturers' Record carefully because they are always sure to find something of value; it may be a special sale, or an opportunity for investment, or some new machinery, or some one looking for a location for a factory, or a thousand and one things advertised that may concern you. Every man ought to *study* newspapers, not simply glance over them, but examine in detail the Manufacturers' Record, for instance, and he will be sure to find something that can be made profitable in his business. In its news columns and in its advertising pages he will find matter that may prove invaluable in his business operations.

## MECHANICAL.

## American Safety Tackle Block.

The illustrations herewith indicate the special features of the American safety tackle block of the Detroit



FIG. 1.

Sprocket Chain Co., Limited, of Detroit, Mich. This company manufactures sprocket wheels, malleable iron buckets and elevating and conveying appliances. As a guarantee of strength



FIG. 2.

and finish only the best steel and refined malleable iron are used in the construction of this tackle block. The block is a single piece, and drops of its own weight on the rope over the sheave. Having the



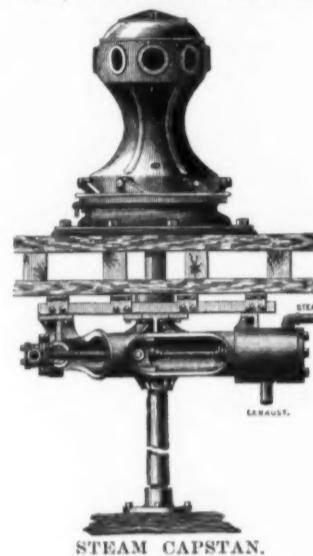
FIG. 3.

cam or eccentric movement, the heavier the load the tighter it is locked. Two eccentrics are on each block, one over each sheave. They act independently of each other, and therein is safety made doubly sure. Six different sizes of rope

can be used with any one size of block. A point emphasized by the manufacturer is the instantaneous locking of the block, so that cutting and extra wear on the rope and wheels are saved.

## Small Steam Capstans.

A small steam capstan, designed especially for small, light-draft boats on Western rivers, and found remarkably successful, has been introduced recently



STEAM CAPSTAN.

by the American Ship Windlass Co., of Providence, R. I.

This company claims that it has never produced and offered to the public a machine that has been a failure, and that is certainly a record to be proud of.

The small steam capstan shown in the illustration herewith weighs only from 900 to 1000 pounds, including the engines, the plates, and everything complete. It is brass bushed throughout, and has steel gears, so as to get the greatest amount of

not get along without it and do the work we have on hand. We can cheerfully recommend it to anyone having use for same."

The American Ship Windlass Co. claims that its hand and steam windlasses, hand and steam capstans, wharf drops and towing machines stand at the head in that branch of business all over the world, and the new, small windlass noticed herewith is recommended to owners of small steamers throughout the country for its efficiency, lightness, compactness, durability and convenience in operating.

## The Temperley Transporter.

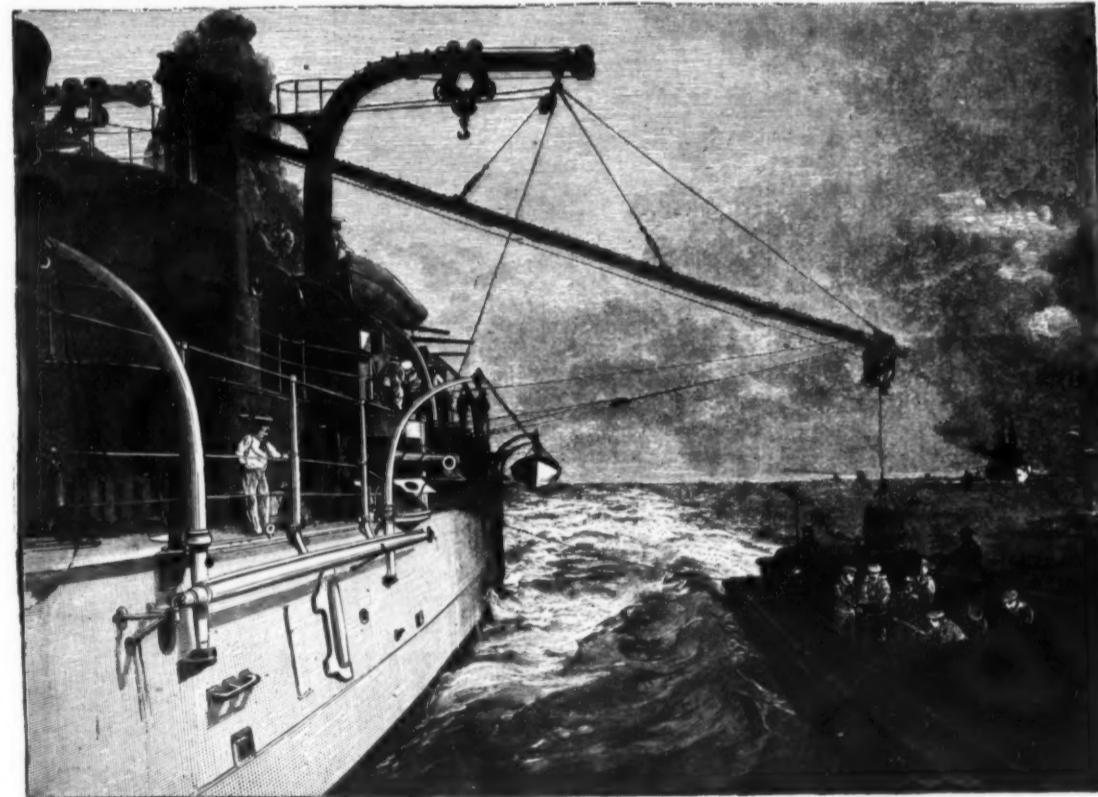
With a view to overcoming the difficulty of obtaining coal on board warships and other classes of vessels which care to avail themselves of this system, the Temperley transporter is being introduced to prospective users.

This system has recently been equipped for the United States steamship Massachusetts, and it will enable that vessel to take coal either when at anchorage off a blockaded port or when steaming at slow speed in moderately calm water.

The new form of hoisting and conveying device, the Temperley transporter, is shown in the accompanying illustration, which represents the battleship Massachusetts taking coal from a barge which she is towing abeam, at a distance of twenty or thirty feet, and at the rate of six or seven knots an hour. It will be seen that the device consists of a traveler running on a suspended beam, which reaches out over the barge and is carried from one of the boat cranes of the battleship. This beam, which is sixty feet in length and weighs about 3000 pounds, is suspended from a strap, attached to the crane by four steel guys, and it is prevented from swinging fore and aft by

to a pulley at the higher end of the beam inboard, and from there it passes around a sheave in the carriage and terminates in a hook to which the bags of coal are attached.

In operation we will suppose that the carriage is at the lower end of the beam over the barge, where it is locked automatically to one of the stops on the under side of the beam, the locking gear of the carriage being then in the position shown in the first figure. After the hook is secured to the coal bag, the hoisting rope is drawn in by the winch, the load rises rapidly to the carriage, where a catch on the hoisting chain, striking a lever, automatically locks the load to the carriage and releases the car from the stop above mentioned on the under side of the beam. This position is shown clearly in the second figure. The further inhauling of the hoisting rope causes the carriage to travel rapidly up the beam. The stops on the under side of the beam are spaced five feet apart, and the carriage is drawn up until it passes that one which is located over the point where it is desired that the bag shall be delivered. The winch is now stopped and reversed, and the carriage moves back until it is arrested by the engagement of the latch, which is shown at the top of the carriage with this particular stop. The dropping of the latch into the stop automatically releases the load from the carriage, and it is forthwith lowered to the deck. The bag is then unhooked, an empty bag is put on in its place, and the operation is reversed, the empty bag being run down the full length of the beam and delivered to the barge. The whole operation is performed in less than a minute, and it requires no skill upon the part of the operator. The long reach of the beam permits coal to be taken from a vessel of any description.



COALING AT SEA BY MEANS OF THE TEMPERLEY TRANSPORTER.

strength and efficiency with the least weight. In 1895 the American Company furnished one of these steam capstans to Tropp, Darling & Co., Rock Island, Ill., for their steamer "Hattie Darling," and in answer to inquiry these parties stated as follows:

"In answer to your inquiry of May 4, 1897, would say the small steam capstan purchased when I was at your factory in 1895 for our small steamer has been in daily use during the navigation season, and has met all requirements. We use it in all kinds of heavy work, and could

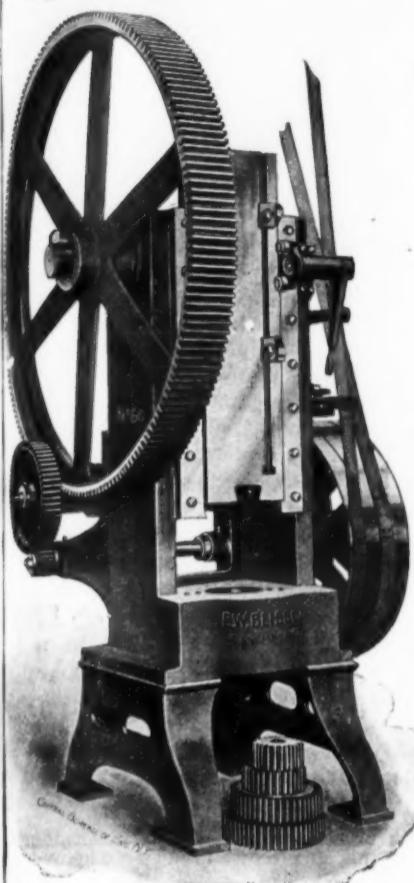
means of other guys which lead inboard and are made fast to the deck of the vessel. A novel form of self-locking carriage is employed, which travels upon the lower flanges of the beam, and is capable of traversing its entire length. The beam is pitched at an angle sufficient to cause the carriage to run out by gravity, and a single hoisting rope coiled about the barrel of the steam winch serves at once to operate the carriage and hoist the load. The rope after leaving the drum is led to a sheave, which is secured at the point of suspension of the beam, from thence

which may stand off from the battleship a distance of from twenty to twenty-five feet, and the operation may be carried out in any sea in which it would be safe for two boats to lie at anchor at that distance apart. As the transporter is supported entirely from the battleship, no part of it can be injured by the rolling from the two vessels.

The Lidgerwood Manufacturing Co., of 96 Liberty street, New York city, manufacturer of this device, can be addressed for any further information that may be desired.

**A New Style Bliss Reducing Press.**

The press shown in the accompanying halftone illustrates a new style reducing press which is manufactured by the E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y. This press is used for reducing the diameter and thereby making into



"BLISS" REDUCING PRESS.

will work more quickly and steadily. The stroke is adjustable between four and thirty inches. The working speed of the slide may be changed to suit the work; and change-gears, as shown at the foot of the press, may be furnished with the machine for this purpose. The principal dimensions are as follows: Weight, 6100 pounds; area of bed, 17x18 inches; size of driving-pulleys, 36x2½ inches; floor space over all, 62x58 inches.

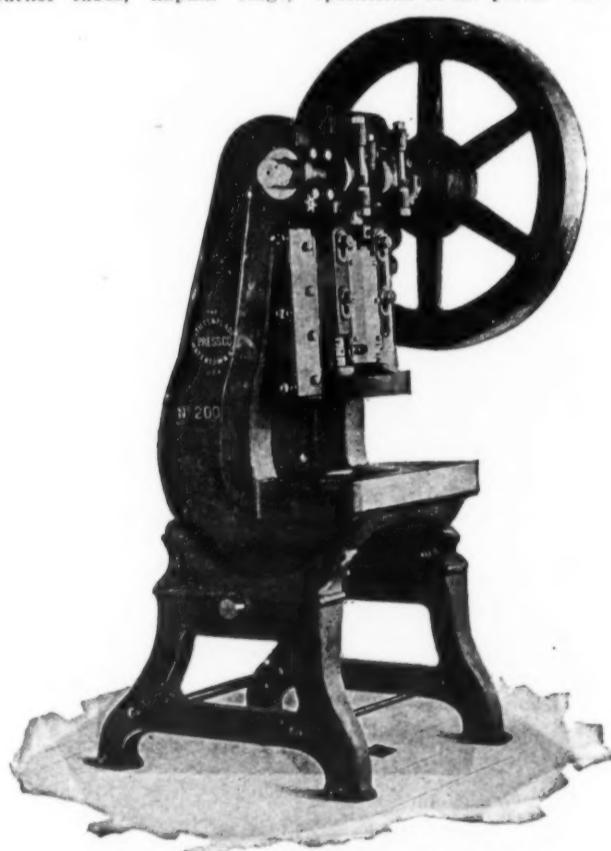
Further particulars may be had by addressing the manufacturers.

**Double-Action Cam-Drawing Press.**

The double-action cam-drawing press shown herewith has a frame that is strong, with ample room and easy access to all parts. As the press is open from front to back, as well as from right to left, the operator has a chance to feed his metal in any direction that best suits his convenience or the construction of the dies demand.

The main cam shaft is of hardened steel, with journals of large diameter, and with long bearings which are carefully scraped to a perfect fit. The slides have long ways, and are fitted with adjustable gibs to the frame to take up wear. The cam yokes are held in place by large clamp bolts, with right and left hand steel adjusting screws, giving great range for adjustment of dies, and at the same time holding these parts firmly in place. The return cams, being positive, no springs or weights are required for returning the slides. The inside or drawing slide is octagon in shape, and is accurately fitted in adjustable gibs for taking up the wear, and permits the operator to use this slide for delicate punching or as a reducing slide for redrawing deep tubes or shells.

The object of a double-action drawing press is that by two independent slide movements bearing such relation to each other that sheet metal can be drawn into different shapes and sizes by one or more operations of the press. This is done by



DOUBLE-ACTION CAM-DRAWING PRESS.

cups, goblets and a large variety of other articles in the brass and silverware lines. It is also extensively used for the forming, bending and finishing operations on deep work.

The machine illustrated is considerably heavier and more powerful than other presses of this kind hitherto made, and

cutting and holding the blank beneath the outer blank holder, while the metal is drawn by the centre or drawing slide from between the surfaces of the die and blankholder, either through the centre die or into this die, as the shape of the work requires. In such work as has a flange, and cannot be punched through,

the metal is pushed or drawn into the shape of the die and then removed from it by a knockout to the surface of the die, where it can either be easily removed or will fall away by its own gravity when the press is placed upon the incline. For push-through work, such as shells or tubes without a flange, the knockout is not required, the drawn pieces passing directly through the dies. These presses are made to be used in either the upright or the incline position, and are built in six sizes as fly-wheel presses, and four sizes as geared presses, by the Stiles & Fladd Press Co., of Watertown, N. Y.

**A New Ironclad Electric Motor.**

The illustration which accompanies this article represents a new ironclad electric motor, as used in connection with the Stow flexible shaft for portable drilling, tapping, reaming, etc.

In our mechanical pages we have previously noticed the combination of Stow flexible shaft and electric motor, manufactured by the Stow Manufacturing Co., of Binghamton, N. Y., by the use of which, where an electric current is accessible, this work can be done at any reasonable distance from the source of power. During the past four years, using its old type of motor, this combination has given most excellent satisfaction, but a demand has been created for a motor that is practically dust and waterproof. The ironclad motor illustrated is its answer to this demand.

The frame is in the form of a hollow cube, with inwardly projecting poles. In each end of frame is a circular aperture, over which is bolted the end plates supporting the bearings. One of these is extended into a short cylinder, forming a case for the commutator and brush holder. The field coils are protected by metallic cases, and can be easily removed. The motors below two horse-power are bipolar, and those of two horse-power and over have four poles. The best of material is used in construction. Self-oiling bearings, mica insulation, rheostats protected by iron case, gears covered, and by simply changing the end plates to bring the oil chambers below

street, London, E. C., England, are the European agents for this plant.

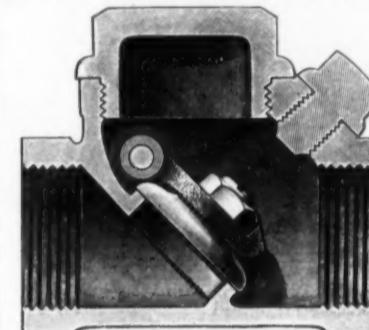
**A Regrinding Swing Check Valve.**

The Lunkenheimer regrinding swing check valve is claimed to be much superior in point of excellence of material, design and workmanship, to any other valve of its class now being offered upon the



EXTERIOR.

market. The body is heavy and well proportioned, the seat is carefully finished and the general workmanship is first-class. This valve is so designed that when the disc is raised the passage through the body is fully equal to the diameter of the connecting pipes. The maker calls particular attention to the quality of metal used in this valve, it be-



SECTIONAL.

ing the best gun-metal composition, the presence of which tends to make the valve more durable than if a common metal was used.

By means of the regrinding feature the usefulness of the valve can be prolonged indefinitely. When worn in the seat the valve can be reground without remov-



NEW IRONCLAD ELECTRIC MOTOR.

the bearings, this motor can be run in almost any position. Motors of this type can be furnished for direct connection when desired; also for electric street-railway track drilling. Stow portable motors are fitted, as shown, with truck wheels, leg, eye, bolt, side brackets, reel, twenty yards of insulated wire, and one set of reduction gears. By use of speed regulator and gears, almost any practical speed can be obtained. Messrs. Selig, Sonnenthal & Co., 85 Queen Victoria

ing valve body from connecting pipes. To Regrind.—Unscrew cap of valve and place some powdered sand and soap on seat; also unscrew plug opposite disc, which will give access to the top of the disc, and by inserting a nail or pointed tool in hole in same it can be ground upon the seat, thus forming a new bearing. Should the disc become badly worn or cut, it can be rubbed down to a smooth surface on a piece of fine emery cloth, or we can furnish new ones at a reasonable

price. All parts of this valve are interchangeable, and any worn-out piece can be renewed.

The regular pattern of this valve is guaranteed to stand a working pressure of 175 pounds, but a line of extra heavy valves of this kind to stand pressures up to 350 pounds is also made. All valves are carefully tested and fully warranted in every respect.

For price-list, address the Lunkheimer Co., sole manufacturer, main offices and factories Cincinnati, Ohio.

#### The Hascall Steam Generator.

This is the name given the device shown in engraving, designed to be

end of boiler to a point just above the water line in front head. Such sediment as may be contained in the water tends to precipitate as soon as the temperature reaches the boiling point, and is carried in at A A by the rapidly-flowing current, and, being of a greater specific gravity than water, continues on its downward course to mud drum H, while the water turns to right or left, flowing through the piping as already described.

Thus, after heat has precipitated the foreign matter contained in the water, it is removed and isolated by reason of the very rapid circulation and gravity, and the boiler and the generator remain perfectly clean and free from scale. In

cent., or using the same quantity of fuel as formerly, the capacity of the boiler is increased in the same proportion; that there is practically no scale formation possible in boiler or generator, and where old scale exists when the generator is attached, it is soon removed and the boiler kept clean thereafter, and, finally, that the steam produced is of a very dry quality.

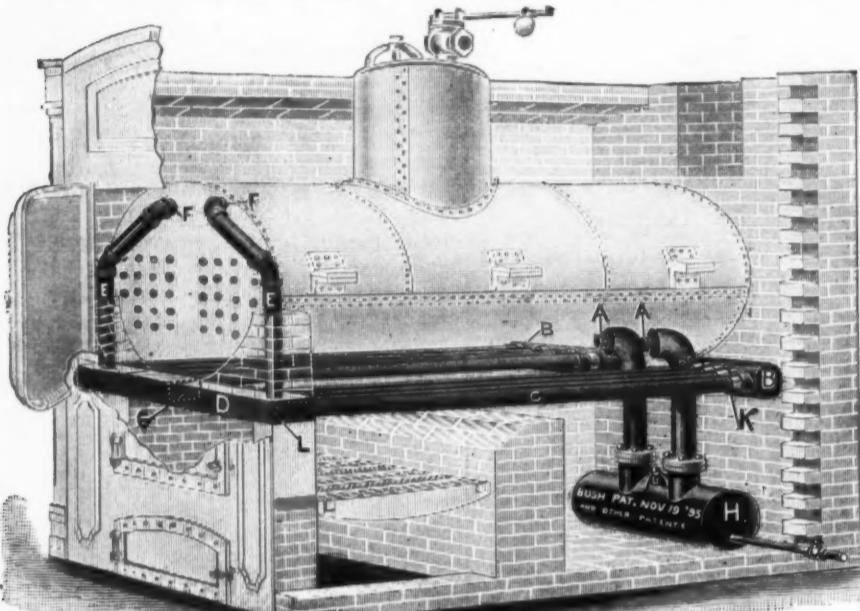
The Hascall Steam Generator Co., sole manufacturer, has branch offices in all the principal cities of the United States. The executive headquarters are at 66 Broadway, New York city, where models are at hand to demonstrate the principle of the generator and show its operation.

age of water, as is the case where the hold-down is operated by a separate steam cylinder, as on similar shears.

6th. Our machines are built on lines which experience has proven to possess the most features of merit, i. e., power and resistance in straight lines, short fulcrum and long power levers and cylinder, which gives a steady motion, adjustable cut-off for the economical use of steam; also, no extra balance weights required.

7th. It is impossible to break our machine by the lapping of the blades, or the introduction of any piece of material of undue thickness between the blades, as, unlike a geared machine, it will stop at any point of the stroke. The shear is, therefore, a perfect safety against breaking any vital part or parts, as a heavy bar can be put in the shears with safety and not break the machine, but would simply stop the engine when in motion to its full capacity, all parts being sufficiently strong to thus prevent any such accidental breakage, so common on geared machines.

8th. The shear is also provided with our patent centre bearing attached direct behind the gate or knife-bar to prevent same from springing. Same is composed of an adjustable wedge-shape bearing attached to a heavy angle-shaped bridge truss or cross-tie, which is fitted to the housings behind the knife-bar to support same in the centre, thus making all parts rigid. The housings and knife-bar, being well braced, will increase the capacity of the shear, especially when the blades become dulled, as they will not need as frequent grinding. If desired or necessary when fitting on new blades, can conveniently adjust the said extra centre bearing by one temper screw, and thus make the blades cut more free and smoother along the centre, and they will be less liable to draw or lap the metal, which would be destructive to the blades. The knife-bar is, therefore, well braced in the centre, and has an extra wide strengthening rib behind the blade, as long cast-



THE HASCALL STEAM GENERATOR AS ATTACHED TO HORIZONTAL TUBULAR BOILER.

placed under steam boilers generally to increase their generating capacity and to make steam in the quickest, most economical and efficient manner. In this is comprehended a very great saving in the use of fuel, a dryer and more commercially profitable quality of steam than can be produced by any other means, an absolute freedom from scale or sediment formation in boiler, with a consequent longer life of same.

The generator is claimed to be simplicity itself in its construction and principle of operation, and presents no change of conditions to the engineer as regards firing and running the boiler to which it may be applied.

It is accessible at all times without disturbing the boiler setting, and the parts can be readily taken out, examined and replaced should this at any time be deemed necessary.

In attaching the generator, the rear head of boiler is tapped and connections made with close nipples at A A (see engraving), which communicate with back headers B B. Expansion joints K permit the tubes to expand and contract freely without injury in any way to the boiler connections. The tubes C are screwed at the front into the water-box or arch, D, which is divided by a partition, as shown by the dotted line at G. The front riser tubes E E extend from the ends of water-box and enter the front head above the fire tubes and water-level at F, F.

Circulation of water commences as soon as the fire is started, entering from the lower portion of the boiler into the generator at A A, and passing through the back headers B B, thence forward through the tubes C, which are immediately over the fire, into the water arch D, and up the risers E E, discharging at F F into the steam space of the boiler. This circulation is constant and extremely rapid, and always in the same direction, viz., from the lowest point at the back

fact, every point of the interior of the generator and boiler is thoroughly washed by the rapid circulation of the water.

The generator is approved and insured by the representative boiler insurance companies.

From data at hand covering an exten-

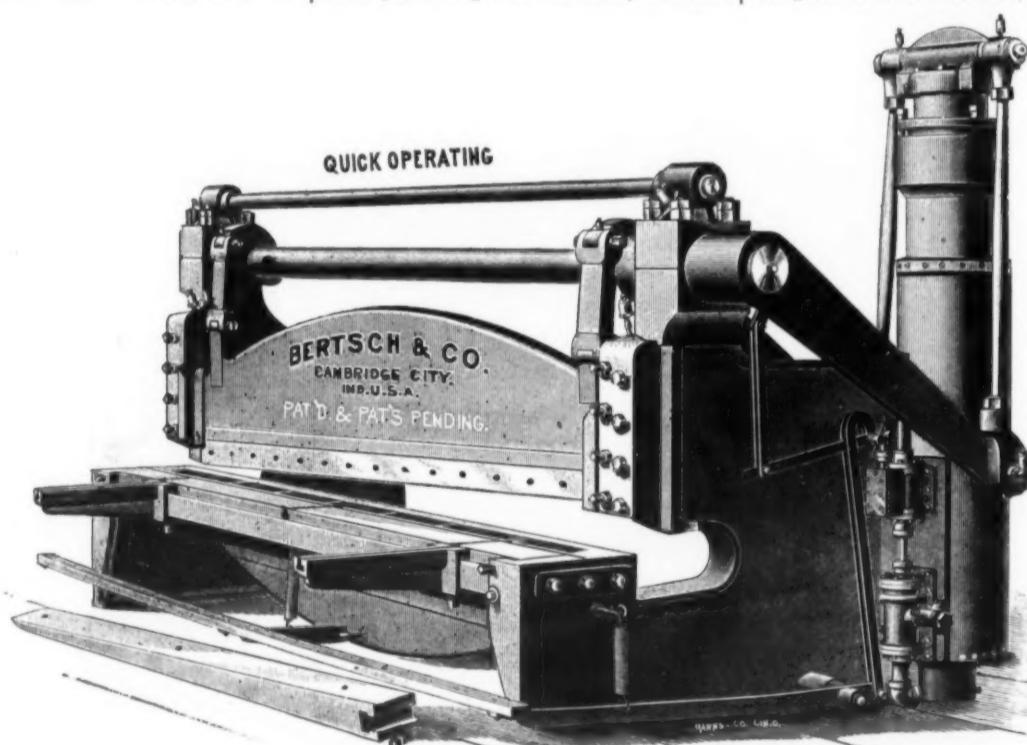
1st. No leakage of water on the work or table. Nothing in the way to obstruct the view of the operator from seeing a line or mark on his work, so common to other similar shears.

2d. A perfect safety against seriously breaking this shear accidentally; connections being strong, engine will stop instantly. (See Art. 7).

3d. A perfect automatic engine, which can be changed from the longest to the shortest stroke in an instant. By changing to the shortest stroke, a 10-foot machine will cut up scrap as quickly as a 30-inch machine.

4th. Fewer wearing parts and less wear than any other machine—from 100 to 300 per cent. There are no complicated parts to get out of order, no check

#### QUICK OPERATING



DIRECT-ACTING AUTOMATIC STEAM SHEAR.

sive use of the Hascall generator, one is forced to the conclusion that the steaming of a boiler is in every instance very much improved where the generator is attached (usually one-half less time than formerly being required to get up steam), that there is no difficulty in keeping steam at the pressure desired; that the saving in fuel ranges from 10 to 30 per

valve to give trouble. There is no piston stuffing-box to pack. No noisy clutch, shafting, gearing, pulleys nor heavy fly-wheels in continuous motion, thus reducing wear and friction to a minimum.

5th. The automatic hold-down is operated from the main rock shaft by compression (which is not shown), consequently there is no annoyance from leak-

ings, though heavy, are easily sprung unless well braced.

The shear is complete, with a full set of front table gages and brackets and long side gage for squaring and cutting to lengths. The back gage is made to order if desired. Prices on application for any size shear from 37-inch to 11 or 12-foot shears, for light or heavy work.

**TEXTILES.**

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

**BUILDING COTTON FACTORIES.**

**An Advocate of Home Capital for that Purpose in the South.**

In a letter to the Manufacturers' Record, Thad. R. Montgomery, of Kosciusko, Miss., writes regarding plans for building factories in the South as follows:

"Neither the world nor Rome were built in a day, nor will cotton factories be established in the South so numerous as to seriously affect trade, in five, ten, or even twenty years. But I believe, by the suggestion I am going to offer, we could establish our own factories, employ our own idle labor and keep the proceeds from these enterprises in our country to establish more factories or invest and improve the country otherwise. By this method we could be independent of Northern capital, and, what is more, when the Northern capitalists saw that we were going to establish factories without their aid, they would very quickly bring their money among us without the asking.

"If the citizens of every community that desires a factory would get together and effect a proper organization (president, vice-president, secretary, treasurer, board of directors, etc.), and work to the point, they could easily succeed. The shares in the factory stock should be in small denominations, that there need be no excuse for the poorest man in the community not owning a few shares; again, the full amount of the shares need not be required to be paid at once and in full, but an instalment-plan could be adopted, whereby these men of very limited means could make a small payment monthly in a specified time, until the amount of their stock was fully paid in. When the required amount of money was raised then negotiations could be begun as regards machinery, etc.

"There is not a community in the South that could not in one year's time raise \$100,000 or \$150,000 for this purpose in this way, which would be a very good beginning. In this way the whole country, and not a few men, would be behind the movement, and every man would work for its success, for it would be to his interest to do so—the venture would be bound to succeed. If the Southern people want factories among them, the quickest and surest way to get them is to go to work and build them ourselves, and show to the world that we are not dependent on anybody for anything."

**To Add 5000 Spindles.**

The stockholders of the Clinton Cotton Mills, of Clinton, S. C., have decided on extensive improvements to their mill. An additional wing will be added to the main building and 5000 spindles and 150 looms will be put in. The brick for the addition is now being made and work on the structure will commence soon. Mr. M. S. Bailey is president of the company.

**Another Cotton Mill for Charlotte, N. C.**

The twelfth cotton mill to be established in Charlotte, N. C., is now being announced. Mr. A. C. Summerville is

the projector of the new enterprise, and has commenced the erection of a brick building to be 125x60 feet in size. The equipment of machinery to be used has been purchased, and will produce backbands, webbing, plow-gears and similar goods.

**Textile Notes.**

Capt. J. M. Graham, of Hopkins, S. C., will erect a new knitting mill of 600 to 800 pairs of stockings daily. The contract for erection of buildings has been awarded and the machinery has been purchased. About 200 hands will be employed.

The directors of the Lockhart Mills, of Lockhart, S. C., will hold a meeting on June 9 to consider an increase of the company's capital stock from \$500,000 to \$650,000. It is proposed that the increase consist of preferred stock. Mr. John C. Cary is secretary.

Mr. Maxwell Coffin, of Little Rock, Ark., is said to contemplate the erection of a cotton mill in Corsicana, and is investigating the adaptabilities of the city for such an enterprise. The Corsicana Commercial Club will endeavor to meet any proposition Mr. Coffin may make.

Mr. Albert W. Dimick has been appointed resident agent of the new Indian Head Cotton Mills, of Alabama, now being built at Cordova, Ala. This is the 3500-spindle plant at Cordova projected by Boston capital. Mr. Dimick will be at the Jackson Company's mill in Nashua, N. H., until August 1.

The Vance Cotton Mills, of Salisbury, N. C., contemplate erecting a weaving plant to consume the product of their 10,000 spindles. The directors of the company are inclined to favor the proposed improvement, and have called a meeting of the stockholders to consider authorizing it; N. B. McCauley, secretary.

The Commercial Club, of Louisville, Ky., has elected Charles C. Carter and Andros Allmond secretaries.

The board of directors of the Commercial and Industrial Association of Birmingham, Ala., have endorsed the following nominations: L. L. Gilbert, secretary, and W. H. Mieou, treasurer.

The Knoxville (Tenn.) Chamber of Commerce has elected the following officers: M. L. Loss, president; E. C. Camp and J. B. Pound, vice-presidents; M. F. Branson, secretary; John Rotach, treasurer.

The Pinners Point Co. has been organized at Norfolk, Va. It is understood to make improvements along the harbor front in that locality. The company controls 1600 feet on the harbor suitable for wharves, warehouses and railroad terminals. John L. Watson, of Portsmouth, and T. J. Wool, of Norfolk, are among those interested in the company.

The *Southern States* magazine is read by thousands of farmers, fruit-growers, stock-raisers and business men in all the

North, West and Northwest, who are looking to the South as a future home and are trying to inform themselves as to the relative advantages of different parts of the South. If you have farm, garden or orchard property for sale the *Southern States* will put you into communication with buyers. Send for sample copy and rates. Manufacturers' Record Publishing Co., Baltimore, Md.; Wm. H. Edmonds, editor and manager.

**COTTONSEED OIL.**

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

**The Market for Cottonseed Products.**

New York, N. Y., June 1. There has been no important development in the local oil situation during the week, a holiday dullness pervading the market. Prices are well maintained, despite the continued weakness in competing products. Lard is selling in Chicago at from 55 to 60 cents per 100 pounds less than at commencement of last month, although it remains in an inverse ratio higher by about the same figures than the lowest recorded price a year ago, when 3 cents was the quotation. The accumulations of lard in the various centres indicate the over-supply and the consequent weakness in value. Tallow is depressed, and sales have been made at 25-16 cents, the lowest price on record. In view of these undesirable trade conditions, cotton oil displays decided firmness, the strong statistical position which it holds and the prospect of a materially-increased transatlantic demand imparting firmness to the article and corresponding confidence in the future. Exports and domestic users of cotton oil display little or no interest, thus leaving the market without an important outlet. During the early part of the week sales of prime yellow have been effected on a basis of 23½ cents, but 24 cents is now quoted, and it is difficult for a buyer to secure a concession. Dark lots may be secured at 23½ to 23¾ cents. English manufacturers of cotton oil have felt the lack of demand from Mediterranean sources, as evidenced by the drop of three pence per 112 pounds. This has had the effect of weakening the market here for oil other than strictly prime, the latter being unaffected, owing to the comparatively light available supplies. Crude oil in Texas mills is held at slightly higher prices, as the demand from Mexico for soapmaking has been unusually active. Exports to France have been less than during any previous week this year. The total quantity exported for the week aggregated 3340 barrels, 2000 of which were consigned to Trieste, while receipts amounted to 3140 barrels. The following are closing prices: Crude, nominal, 20 cents; crude, loose, f. o. b. mills, 16 to 18 cents; summer yellow, prime, 24 cents; summer off grade, 23½ to 23¾ cents; yellow butter grades, 26 to 28 cents; white, prime 26½ cents, and soap stock ½ to ¾. Liverpool quotes refined oil dull at 15s. to 15½s. Cake and meal—Latest advices from abroad are to the effect that for the finer descriptions of American decorticated cotton cake fully previous rates are obtainable, and a fair extent of business is transpiring, but the lower qualities are neglected. Fair to choice American cotton cake is selling at £5 2s. to £5 10s., while Mexican cotton cake is selling at £4 2s. 6d. per ton. Exports for the week amount to 3000 tons. Domestic trading is quiet, cake being nominally quoted in the local market at \$19.50 per ton.

**Cottonseed-Oil Notes.**

Mr. C. D. Stewart, contractor at Cheneyville, near Alexandria, La., recently closed a contract to build an 80-ton union oil mill at Bunkie, Avoyelles parish, La., to cost about \$35,000 and to be ready to take off the growing crop.

The market for cottonseed products in Memphis, Tenn., was quiet last week, with quotations as follows: Prime crude oil, 17 to 17½ cents; prime summer yellow oil, 19 cents, and choice cooking sum-

mer yellow oil, 26 to 27 cents; cottonseed meal in car lots, \$15 to \$15.50; cottonseed in bulk, \$8 per ton by rail and wagon, and sacked seed by river, \$7.

The Roberts Cotton Oil Co. was organized last week in Chattanooga, Tenn., with a capital stock of \$50,000. The company will operate a cottonseed-oil mill at Kennett, Mo., and will practically be under the supervision of the Chattanooga Cottonseed-Oil Co. The contract for the buildings and necessary machinery has been let and the work of construction will commence at once. The new mill will have a capacity of sixty tons of cottonseed per day. The officers of the company are E. G. Richmond, president; Henry Bond, vice-president; Hill Bond, secretary and treasurer; W. D. Roberts, general manager, and W. S. Roberts, superintendent.

In New Orleans last week cottonseed products were unchanged and the market quiet and steady. Prime crude oil in bulk, 17 to 18 cents; prime summer yellow in barrels, 22½ cents; meal and cake, \$18.25 to \$18.50 per short ton and \$20 to \$21 per long ton for export. Receivers' prices were as follows: Cottonseed, \$9 per ton (2000 pounds) delivered to the mills; cottonseed meal jobbing at depot, \$18.25 to \$18.50 per short ton, and \$20 to \$20.50 per long ton for export f. o. b.; cottonseed oil 18 to 19 cents per gallon for strictly prime crude, in bulk 17 to 18 cents, and 22½ cents for refined oil at wholesale or for shipment; oil cake \$20 to \$21 per long ton f. o. b.; linters—A, 3½ cents per pound; B, 3½ cents; C, 3½ cents; hulls delivered at 15 to 20 cents per 100 pounds, according to location of the mills.

**CUBAN TOBACCO GROWING.****Mr. N. F. Thompson's Observation of It in the South.**

Mr. N. F. Thompson, secretary of the Johnstown (Pa.) Board of Trade, writes as follows to the Manufacturers' Record:

"Noticing an account in this week's Manufacturers' Record regarding the growing of Cuban tobacco in the South, from an interview of Mr. Charles Dittmar, of your city, I wish to add to the value of his testimony by relating a personal incident which I published in Birmingham at the time, three years ago. While traveling on business through Henry county, Alabama, my attention was called to some tobacco grown by a farmer near the town of Dothan, in that county. He had raised something like 1000 pounds of it, but knowing nothing of its care, had simply cut it at maturity and left it in his barn to cure like hay. I took some of the best samples I could procure with me to Birmingham and asked a Spanish cigarmaker there to make them up into cigars for me. After carefully examining them he finally pushed them towards me on the counter with a quizzical look and shook his head, turning back to his work. I asked him what he meant, when he gave me this reply: 'You no catch me on dat, him Cuba tobacco, no pay duty.' He took me for a revenue officer trying to entrap him with smuggled Cuban tobacco, and not until I made him fully satisfied that I was a friend, and that the tobacco had been grown in Alabama, would he consent to make it up.

"In reality the tobacco was from seed imported from Cuba, and with any knowledge of its culture would have compared favorably with any grown on Cuban soil. And yet there is a wide stretch of this class of land, ranging across the Southern belt of Alabama from Pensacola to Mobile, which can be bought for a mere trifle, that will grow as fine tobacco as can be found in Cuba."

# CONSTRUCTION DEPARTMENT.

**THE MANUFACTURERS' RECORD**  
 seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

#### ALABAMA.

Birmingham—Fertilizer Factory.—A \$100,000 stock company will be organized, with L. Cohen, of Sandersville, Ga., president; F. Burbridge, of Charleston, S. C., vice-president, and C. Exon, until now of Charleston, S. C., will be resident manager. The company will expend \$60,000 on its factory, which will be erected at once. The buildings will occupy five acres of ground; main building will be 400x100 feet, another 300x50 feet, etc.

Citronelle—Development Company.—The Citronelle Development Co. has been incorporated by W. S. Boroughs, St. Louis; Michael B. Pierce and Jennie T. Mann. The capital stock is \$5000.

Ozark—Electric-light Plant.—The city is desirous of granting charter and franchise for electric-lighting plant. For information address I. E. Edwards, city engineer.\*

Whistler—Telephone Line.—The Interstate Telephone Co. has been organized to establish a line from Whistler to Waynesboro, Miss.; J. P. Wetherbee, of Waynesboro, is president; Dr. J. G. Michael, of Citronelle, Ala., secretary, and Peter Peterson, of Whistler, treasurer.

#### ARKANSAS.

White Cliffs—Cement Works, etc.—Eden Born has purchased a controlling interest in the White Cliffs Portland Cement Co. for \$100,000. It is said that the company will be reorganized and the capacity of the works greatly increased. Letters to Mr. Born can be addressed in care of the company as above.

#### FLORIDA.

Standard—Water Works.—A. G. Firth is interested in the proposed construction of water works, and is seeking bids and estimates on materials, machinery, etc.\*

#### GEORGIA.

Americus—Crate Factory.—The Georgia Fruit Package Co., of Fort Valley, Ga., contemplates erecting a factory in Americus.

Americus—Iron Foundry, etc.—John Shefield and Charles Huntington will establish an iron foundry, investing about \$8000. About twenty men will be employed, and later on a plow and plow-stock branch will be added.

Cartersville—Manganese Mining.—H. C. Stiles, W. F. Parker, E. F. Corey, Wm. Tupper and H. H. Raymond have incorporated the Cartersville Manganese & Mining Co., with capital stock of \$10,000.

Chickamauga—Coke Ovens.—The Chickamauga Coal & Coke Co. has closed contract for the erection of a 100-coke-oven plant to cost \$60,000. The plant may possibly be located at Kensington.

Columbus—Clothing Factory.—The Georgia Manufacturing Co. will enlarge its factory, erecting a new building and putting in 400 new sewing machines.

Hawkinsville—Elevator System.—H. H. Sparrow will install an improved elevator system in his cotton ginnery.\*

High Falls—Water-power Development.—A. Langstaff Johnson, of Richmond, Va., proposes constructing dams at High Falls and developing water-power to be transmitted to Griffin and other cities for use in manufactories, etc. It is also proposed to furnish Griffin, Ga., with electric-lighting from the plant, and a proposition has been made to that city.

Homerville—Saw Mills.—J. F. Maull, of Elmore, Ala., contemplates erecting saw mills on a tract of timber near Homerville.

Macon—Phosphate Works.—The Southern Phosphate Works is now pushing the work of enlarging its plant. The works are being doubled in capacity, which will make the daily output 3000 tons. The improvements will cost \$25,000.

Waycross—Machine Shops.—Rexford & Robbins, of Sanford, Fla., contemplate removing their machine shops to Waycross, Ga.

#### KENTUCKY.

Clay City—Lumber Mills.—Floyd Day, E. S. Jones, of Winchester, Ky., and New York parties have incorporated the Clay City Lumber & Stave Co., and will operate an established mill.

Dayton—Bridge.—City Engineer E. Shinkle will prepare plans and specifications for proposed bridge. Address engineer or the mayor.

Frankfort—Coal Company.—Articles of incorporation of the Jellico Coal Co., capital stock \$2000, have been filed at Frankfort. The incorporators are A. Gatlin, Jno. W. South, P. T. Mahone and E. T. Halsey.

Lebanon—Steam Laundry.—The Lebanon Steam Laundry has been incorporated, with capital stock of \$3000, by D. W. Edwards, L. L. Dyckman and M. E. McCombe.

Louisville—Distillery.—The Rugby Distillery Co. is having plans prepared for a new distillery, but is not positive that the plant will be erected.

#### LOUISIANA.

Abbeville—Cotton Gin and Ice Factory.—The Abbeville Cotton Gin & Ice Factory Co. has been organized to erect a cotton gin and ice factory. Contract for the gin has been about closed, but the ice factory will not be erected until next spring. M. T. Gordy is president; J. F. Lann, secretary, and E. P. Putnam, manager.

Allentown—Planing Mill.—Allen Bros. & Wedley, Limited, will rebuild at once their burned planing mill; plant was valued at \$15,000.

Bunkie—Oil Mill.—The Union Oil Co., mentioned last week, has let contract to C. D. Stewart for the erection of a 80-ton oil mill.

#### MARYLAND.

Baltimore—Wind-mill Works.—The Aerostatic Power Co. will be incorporated by Lewis Ashman, John F. Ford, Robert Shaw and others, with a capital stock of \$200,000, for the purpose of manufacturing wind mills for artesian wells, etc. Office at 1008 South Fremont street.

Baltimore—Brewery.—The Standard Brewery Co. has been incorporated, with a capital stock of \$150,000, by John Marr, Joseph Gottschalk, John H. Thomas, Paul Elsenlohr and Frank Stell. The incorporators, with Louis Becker, form the board of directors; company will operate brewery now established.

Baltimore—Furniture Company.—The Philip Hiss Co. has been incorporated by

Henry S. Hiss, John E. Semmes, John P. Phillips and Clymer Whyte, to deal in furniture; capital stock is \$30,000.

Pekin—Coal Mine.—The Atlantic Coal Co. (of Baltimore) is prospecting for another coal mine in the vicinity of Pekin.

#### MISSISSIPPI.

Columbus—Railroad Shops.—E. L. Russell, vice-president of the Mobile & Ohio Railroad, informs us that at present the company entertains no purpose of establishing shops at Columbus, as has been reported. When the railroad is extended from Columbus to Montgomery this project will be then considered.

Meridian—Telephone System.—J. E. Evans, Wm. Henry, V. L. Terrell and others have incorporated the East Mississippi Telephone Co., with capital stock of \$50,000, to construct telephone lines, etc.

#### MISSOURI.

Gower—Telephone Company.—The Seward Telephone Co., capital stock \$7000, has been incorporated by A. J. Hitt, E. A. Bunter, D. P. Cornish and others.

Holden—Electric-light Plant.—The city has let contract to Fuller & Tittle, of St. Louis, at \$8700, for the erection of an electric-light plant.

Kansas City—Pine Land Company.—The Plymouth Pine Land Co., capital stock \$54,000, has been incorporated by A. E. Stillwell, E. S. Mosher and A. C. Robinson.

Kansas City—Machinery Company.—The John Wedge Machinery Co., capital stock \$5000, has been incorporated by E. S. Wedge, Joseph Unser, John Wedge and others.

Kennett—Oil Mill.—The Roberts Cotton Oil Co. has been incorporated, with a capital stock of \$50,000, and will build an oil mill; E. G. Richmond, president; Henry Bond, vice-president; W. D. Roberts, general manager; Hill Bond, secretary-treasurer, all of Chattanooga, Tenn., where the company was chartered last week (and noted in this department under that city's heading). It is said that all the machinery to be needed has been contracted for. Inquiries should be addressed in care of the Chattanooga Cotton Oil Co., at Chattanooga.

Macon—Carriage Company.—The Blees-McVicker Carriage Co., capital stock \$12,000, has been incorporated by F. W. Blees, E. L. McVicker, E. B. Clements and others.

Macon—Carriage Factory.—The Blees-McVicker Carriage Co., reported last week as incorporated, is now erecting a building two stories high, 120x93 feet, with boiler and engine-house 40x50 feet, and will put in 100-horse-power engine and \$4000 worth of woodworking machinery; F. W. Blees, secretary.\*

Ste. Genevieve—Mercantile.—The Rubenstein Mercantile Co., capital stock \$5000, has been incorporated by Joe Louis, Sam and L. Rubenstein.

St. Louis—Fire-clay Company.—St. Louis Fire Clay Co., capital stock \$3000, has been incorporated by A. C. Dollins, James D. Lehner and G. A. Davies.

St. Louis—Ball-bearing Company.—The St. Louis Frictionless Ball Bearing Co., capital stock \$5000, has been incorporated by O. G. Shands, F. W. Klocke and Edward F. Flanagan.

St. Louis—Shoe Factory.—The Tennent-Stirling Shoe Co. is having plans drawn for a factory double the size of the one now in operation. Options have been secured on site, and when completed 500 more shoe-workers will find employment in the new plant.

Sweet Springs—Mercantile.—Incorporated: The A. Elsner Mercantile Co., capital stock \$8000, by Alice G. Elsner, C. F. Elsner and August Elsner.

#### NORTH CAROLINA.

Charlotte—Cotton Mill.—A. C. Summerville will establish a mill for the manufacture of buckbands and similar goods. Brick building 125x60 feet is now being erected to accommodate the machinery, which latter has been bought.

Greensboro—Brewery and Ice Plant.—A charter has been granted to the Old North State Brewing Co., with a capital stock of \$150,000. The officers are W. A. Fields, president; G. C. Hicks, vice-president and general manager; W. T. Bogart, secretary and treasurer; Thos. J. Willis, assistant manager. The directors are W. A. Fields,

G. C. Hicks, W. F. Bogart, John L. Hummer and Thos. J. Willis. Work is to be commenced on the buildings as soon as a site can be secured. The capacity of the brewery will be 50,000 barrels of beer a year. The brewery will have, in addition, an ice plant, with a capacity of twenty-five tons per day.

Salisbury—Cotton Mill.—The Vance Cotton Mills contemplate erecting a weaving addition, to consume the product of 10,000 spindles.

Southern Pines—Water Works and Sewerage System.—The town has voted an issuance of \$25,000 bonds for the construction of water works and sewerage system. Address the mayor.

Tarboro—Telephone Company.—Incorporated: The Tarboro Telephone & Telegraph Co., by George H. Holderness, James G. Meehan, W. Newton Smith, Job Cobb, J. W. B. Battle, A. M. Fairley and W. H. Powell, Jr.

Wilson—Tobacco Prize-house.—Briggs & Fleming will rebuild their tobacco prize-house, recently destroyed by fire.

#### SOUTH CAROLINA.

Brunson—Knitting Mill.—J. C. Preacher contemplates establishing a knitting mill.\*

Ridgeville—Woodworking Factory.—Thos. Lebby and Edw. H. Hutchison have incorporated the Ridgeville Spoke & Handle Manufacturing Co.; capital stock, \$2000.

Cameron—Mattress and Bed Factory, etc.—The Wesner & White Manufacturing Co., reported last week as incorporated, is to succeed to the business of Wesner & White, who manufacture mattresses, spring beds, cots, etc. Organization will be effected shortly, and then it is proposed to enlarge the plant later on to manufacture tables, lounges, kitchen tables, safes, etc.

Clinton—Cotton Mill.—The Clinton Cotton Mills will increase capital stock to \$175,000 from \$150,000, and erect an additional building. Five thousand spindles and 150 additional looms will be installed.

Fountain Inn—Telephone Company.—A commission for a charter has been issued to the Fountain Inn Telephone Co., with S. S. Knight, J. A. Cannon and H. L. Shaw as incorporators. The capital stock is \$800.

Gaffney City—Water Works, Electric-light Plant, etc.—Chartered: The Mountain View Land Co. of Gaffney City, which proposes to put in a water-works plant and an electric plant. The capital stock is \$4500. The incorporators are Charles M. Smith, W. H. Smith, W. C. Hennick, P. L. Cutting and R. S. Lipscomb.

Hopkins—Hosiery Mill.—J. M. Graham has let contracts for erection of buildings to be used for knitting mills. Machinery has been purchased for daily capacity of 600 to 800 pairs.

Lockhart—The Lockhart Mills are considering an increase of capital stock from \$500,000 to \$650,000; J. C. Cary, president.

Newberry—Machine Shops, Vehicle Factory, etc.—The Newberry Manufacturing Co., mentioned last week as chartered, will manufacture vehicles, operate foundry, machine shops, cotton ginnery, etc.; site has been purchased for the plant; thirty men will be employed.

Ridgeville—Woodworking Factory.—A commission for a charter has been issued to the Ridgeville Spoke & Handle Manufacturing Co. The incorporators named are Thomas D. Lebby and Edward H. Hutchison, and the capital stock is \$2000.

Spartanburg—Fertilizer Works.—The Spartanburg Fertilizer Co. will enlarge, it is reported, its works.

Union—Brick Works.—Chartered: The Rodgers Brick Works, capital stock placed at \$2500, by Phillip M. Cohen and James H. Rodgers.

#### TENNESSEE.

Blue Springs—Lead Company.—The Blue Springs Lead & Zinc Co. has been granted a charter. The incorporators are W. A. Ward, H. H. Ward, S. W. Divine, T. R. Preston and W. D. Caswell.

Columbia—Mills.—The Bingham Milling Co. has been granted a charter. The incorporators are J. S. Bingham, J. L. Saunders, James Gibbs, J. D. Cathey and Daniel Gallopway.

Elizabethton—Lumber Mills.—The Lynnville Lumber Co. will locate mills.

Elizabethton—Heading Factory.—John McLay, of Lynn, Miss., will build a \$40,000

stave  
sixty  
Ell  
ing I  
work  
mills  
ten a  
Eun  
from  
ville  
two  
each  
Ma  
The  
water  
comp  
use  
be se  
New  
Mart  
Nas  
Barn  
other  
nauti  
Unt  
City  
grain  
Balle  
Cent  
of C  
plant  
chase  
Con  
of L  
platin  
sican  
to m  
make  
Gal  
Dock  
corpor  
V. E  
of th  
in G  
exten  
150 f  
a rig  
vesto  
Hou  
Unit  
Stock  
Mart  
Mart  
Bren  
and s  
Jac  
Robe  
light  
Mid  
lona  
Midla  
specia  
of M  
to do  
public  
corpo  
Robe  
Oak  
Cif  
purpo  
of Sa  
estab  
Dan  
Brosi  
movin  
ville  
compa  
the p  
Lyn  
of Sa  
estab  
New  
Ton  
Newp  
Freed  
Reges  
is to  
\$100,  
posed  
presid  
presi  
Pur  
Co. h  
mill a  
barrel  
Roa  
The  
I  
stock  
presid  
P. Pe  
treasu  
be to

stave factory in Elizabethton, to employ sixty men.

Elizabethton—Lumber Mills.—The Whiting Lumber Co., of Philadelphia, is now at work on the erection of its extensive planing mills, dry-kilns, etc. The plant will cover ten acres of ground.

Embreeville—Iron Furnaces.—A dispatch from Johnson City says that the Embreeville Furnace Co. will construct this summer two new iron furnaces of 100 tons capacity each per day.

Martin—Water and Electric-light Plants.—The plans and specifications for the proposed water and electric-light works are nearly completed, and the city will shortly advertise for bids. Each part of the material will be separately bid on; C. E. Davis, engineer, Newbern, Tenn.; J. E. Kennedy, mayor, Martin.

Nashville—Aeronautic Company.—A. W. Barnard, T. D. Willis, E. E. Barthell and others have incorporated the Nashville Aeronautic Co., to develop an aeronautic invention.

Union City—Grain Elevator.—The Union City Roller Mill Co. will erect a \$10,000 grain elevator, so it is reported; W. J. Bailey, secretary.

#### TEXAS.

Centre—Lumber Plant.—Dr. J. C. Watts, of Cave Spring, Ga., will erect a lumber plant at Centre; machinery has been purchased.

Corsicana—Cotton Mill.—Maxwell Coffin, of Little Rock, Ark., is reported as contemplating the erection of a cotton mill in Corsicana. The Commercial Club will endeavor to meet any proposition Mr. Coffin may make.

Galveston—Docks, etc.—The West End Dock Co., capital stock \$2000, has been incorporated by George E. Mann, T. J. Groce, V. E. Austin, G. H. Mensing. The purpose of the corporation is to construct a channel in Galveston bay to the La Porte bridge, extending 1500 feet. The channel is to be 150 feet in width and 15 feet in depth, with a right of way of 700 feet off the flats at Galveston bay.

Houston—Fan Factory.—Incorporated: The United States Automatic Fan Co., capital stock \$50,000, by G. W. Hever and L. W. Martyr, of Houston; G. W. Oser and E. E. Martyr, of Galveston, and W. B. Dean, of Brenham, for the purpose of manufacturing and selling automatic fans.

Jacksonville—Electric-light Plant.—J. B. Roberts has obtained franchise for electric-lighting plant from the city.

Midland—Mining.—Chartered: The Chipiona Mining Co., with principal office at Midland, and to carry on its business especially near Ures, State of Sonora, Republic of Mexico; capital stock, \$25,000; purpose, to do a general mining business in the Republic of Mexico and State of Texas. Incorporators: F. Divers, John M. Cowden and Robert Bartlett, all of Midland.

Oak Cliff—Sewerage.—Chartered: The Oak Cliff Sewerage Co., capital stock \$10,000; purpose, the construction and maintenance of a system of sewerage. Incorporators: W. M. Crow, M. Thos. Edgerton and W. L. Diamond.

Victoria—Cotton Gins.—Robb & Miller will erect cotton gins.

#### VIRGINIA.

Danville—Sewing-machine Works.—J. M. Brosius, of Terre Haute, Ind., proposes removing his sewing-machine works to Danville. It is contemplated to form a \$300,000 company and erect a much larger plant than the present one.

Lynchburg—Pants Factory.—Leon Palmer, of Salem, Va., is interested in a project to establish pants factory in Lynchburg.

Newport News—Gas Plant.—Incorporated: The Newport News Gas Co., by C. M. Braxton, J. M. Curtis and Carter Perkins, of Newport News, and E. A. Catlin, Samuel Freedley, William J. Payne and Samuel Regester, of Richmond. The capital stock is to be not less than \$50,000 nor more than \$100,000, and a plant to cost \$75,000 is proposed. The officers are William J. Payne, president; Carter M. Braxton, vice-president; D. C. Zollieckoffer, secretary and treasurer; Samuel Regester, general counsel.

Purcellville—Flour Mill.—J. R. Smith & Co. have contracted for remodeling their mill and increasing capacity from 100 to 150 barrels daily.

Roanoke—Machine Works.—Chartered: The Perkins Machine Co., with a capital stock of \$100,000; J. A. Jamison, of Roanoke, president; J. B. Palmer, vice-president; N. P. Perkins, secretary, and T. E. Jamison, treasurer. The object of the company will be to operate the new tobacco granulating

machine recently invented by Mr. Perkins. The promoters will manufacture the machines and place them on royalty.

Roanoke—Rolling Mills, etc.—The Hollidaysburg (Pa.) Iron & Nail Co. has purchased the Midvale Rolling Mill & Spike Co.'s plant, in Roanoke. The plant may be removed to Pennsylvania or to Birmingham, Ala.

#### WEST VIRGINIA.

Charlestown—Chartered: The Photo-Identification Co., for the purpose of acquiring titles by purchase to inventories, discoveries or patent rights, and dealing in the same, to conduct a mining business, etc. The authorized capital is \$100,000. The incorporators are Frank C. Garmann and Emma W. Finlayson, of New York city; James M. Mason, Jr., and Cleon Moore, of Charlestown, W. Va.

Festus—Telephone Company.—The Fairmont & Western Telephone Co., with authorized capital of \$20,000, has been organized for constructing and operating lines of telephone from Fairmont to Smithfield, etc. The incorporators are J. F. Martin, S. J. Sturm, R. B. Parrish and W. E. Cunningham, of Festus; George W. Mullan and James Davis, of Worthington; E. F. Wood, of Farmington; John N. Hess and W. E. Cunningham, of Bingamon; G. H. and F. H. Wilcox, and G. H. Wyatt.

Martinsburg—Coal Company.—Charter issued to the George R. Sheriff Coal Co., incorporated by Washington parties, with a capital stock of \$100,000.

Star Tannery—Flour Mill.—Luther Brill will erect a 30-barrel flour mill; contract closed for machinery.

Wheeling—Celery Cultivation.—Chartered: The Don Celery Co., with an authorized capital of \$15,000, for the purpose of growing and marketing celery. The incorporators are Wm. S. Friess, of Wheeling; James H. Cooper, James W. Collins, John J. Smith and Lewis Summers, of Don, O.

#### BURNED.

Allentown, La.—Allen Bros. & Wadley's planing mill; loss \$15,000.

Chattanooga, Tenn.—The Nixon Manufacturing Co.'s hardware plant.

Greenville, Miss.—The Leavenworth Lumber Co.'s mill; loss \$10,000.

Ocean Springs, Miss.—The Hieronymous Lumber Co.'s mill; loss \$10,000.

#### BUILDING NOTES.

Anderson, S. C.—Courthouse.—Contracts for building a courthouse and a jail at Anderson, S. C., will be awarded on the 1st day of July, 1897. Plans and specifications for said buildings will be on file in the office of the county board of commissioners on and after the 10th day of June, 1897. Contractors submitting bids will be requested to deposit with the supervisor a certified check for \$1000 on one of the banks of Anderson as a guarantee. If awarded the contract he will file an acceptable bond within fifteen days. The right to reject any and all bids is reserved; W. P. Snelgrove, county supervisor, Anderson county.

Blakely, Ga.—Warehouse.—C. Miller, of Albany, Ga., is preparing plans for a large warehouse (fire-proof) for David Jaynes.

Galveston, Texas—Courthouse.—Sealed bids will be received until June 28 for the building of the county courthouse of Galveston county, Texas, according to plans and specifications prepared by N. J. Clayton & Co., architects, to be seen in the office of the county clerk of Galveston county, Texas, and in the office of said architects. Certified check of \$5000 to accompany each bid, to be forfeited to the county by the successful bidder should he fail to file bond in the sum of \$50,000 for the faithful performance of contract, and a guarantee for payment of labor and materials. Bids to be addressed care Geo. H. Law, Jr., county clerk. Contractors are requested to make separate bids for the old courthouse building, to be torn down and removed.

Huntsville, Ala.—Jail.—Contract for the steel and structural iron work for the new jail has been let to the Pauley Jail Building Co., of St. Louis, at \$15,390.

Louisville, Ky.—J. B. Hutchings has prepared plans for a \$10,000 building for Owen Gathright.

Louisville, Ky.—Residence.—O. P. Reuter has prepared plans for a brick residence for L. Stoke, to cost \$10,000.

New Orleans, La.—Dwellings.—Building permits: N. A. Bayne, four-story brick store to cost \$4500; Jas. C. Mann, two-story frame, \$2500; Mrs. G. Lowenstein, double frame cottage, \$1700; A. C. Babin, double frame cottage, \$2350; Jesse Hawthorn, double frame cottage, \$1000; N. Maestri, frame cottage, \$1100; Frank Brunner, store and residence, \$2800.

Norfolk, Va.—Warehouse.—The Southern Railway has let contract to Jno. P. Pettyjohn & Co., of Lynchburg, for the erection of a warehouse at Pinner's Point to cost \$25,000.

Southern Pines, N. C.—School Building.—The town will erect a school building. Address the mayor.

Festus—Telephone Company.—The Fairmont & Western Telephone Co., with authorized capital of \$20,000, has been organized for constructing and operating lines of telephone from Fairmont to Smithfield, etc. The incorporators are J. F. Martin, S. J. Sturm, R. B. Parrish and W. E. Cunningham, of Festus; George W. Mullan and James Davis, of Worthington; E. F. Wood, of Farmington; John N. Hess and W. E. Cunningham, of Bingamon; G. H. and F. H. Wilcox, and G. H. Wyatt.

Washington, D. C.—Dwellings.—Jas. H. Meriwether has permit to erect twenty-seven dwellings to cost \$40,500; A. Ambrosi, a dwelling, \$4000.

Washington, D. C.—Dwellings, etc.—M. T. Cockey has permit for twenty dwellings to cost \$35,000, and G. W. Barkman for dwelling to cost \$4000.

Washington, D. C.—Dwellings.—T. A. Harding will erect two four-story apartment-houses from plans prepared by C. L. Harding.

Washington, D. C.—Dwellings.—Permit issued to F. A. Sinclair for \$3500 dwelling; to J. H. Lane for two dwellings to cost \$6000.

#### RAILROAD CONSTRUCTION.

##### Railways.

Ashland, Ky.—President Willis Ringo, of the Ashland & Catlettsburg Street Railway Co., advises the Manufacturers' Record that an extension of this line to Huntington, W. Va., has been planned, but it has been decided not to build it this season.

Bear Spring, Tenn.—J. H. Lory, general manager of the company constructing the Tennessee Northern Railroad, advises the Manufacturers' Record that contracts for grading have been let, and that the company has procured all its own bridge and trestle timbers. The company may be in the market in about three months for rails and rolling stock.

Carthage, N. C.—W. C. Petty, manager of the Carthage Railroad, advises the Manufacturers' Record that the road is to be extended twelve miles, as stated, from Carthage to a point on the Deep river near Prosperity, N. C.

Chattanooga, Tenn.—It is reported that the Chattanooga Company is to have a line surveyed between Chattanooga and Signal Mountain, with a view of building the proposed railroad to reach the coal deposits in the vicinity of the mountain. M. D. Miller, of St. Paul, Minn., is engineer. T. J. Nicholl is general manager of the company.

Baltimore, Md.—Dwellings.—J. H. Aull will build four two-story frame dwellings and ten two-story brick dwellings; J. L. Wright, thirty-five two-story brick dwellings; Chas. B. Burdette, nineteen two-story brick dwellings; Joseph Schamberger, five two-story buildings; Henry Yewell, twenty-four three-story brick dwellings; Joshua C. Hobbs, four two-story frame dwellings.

Blakely, Ga.—Warehouse.—C. Miller, of Albany, Ga., is preparing plans for a large warehouse (fire-proof) for David Jaynes.

Decatur, Ala.—According to a dispatch from Nashville, Tenn., Joseph Dickson, of St. Louis, the purchaser of the Middle Tennessee & Alabama Railroad for the syndicate which now controls it, is quoted as saying this line will be extended from Decatur to Nashville, and that bonds to the extent of \$20,000 per mile will be issued.

Donaldsonville, La.—It is announced that Barbour & Rupile, of New Orleans, have secured a contract for grading the Mississippi & Louisiana Railway from Natchez to New Orleans, the purchaser of the Middle Tennessee & Alabama Railroad for the syndicate which now controls it, is quoted as saying this line will be extended from Decatur to Nashville, and that bonds to the extent of \$20,000 per mile will be issued.

Galveston, Texas.—It is reported that the Galveston, Brazos & Southwestern Railroad Co. is promoting a line which will eventually terminate at San Antonio, to connect San Antonio and Galveston. This is the road which has been surveyed through Matagorda and Brazoria counties, and in which L. P. Featherstone, general manager of the Gulf & Interstate Railroad, is interested. The company has a capital of \$100,000.

Galveston, Texas.—The Chamber of Commerce is considering a proposition from Uriah Lott to build a direct line from San Antonio to Galveston. A committee, consisting of R. V. Davidson, W. S. Davis and others, has been appointed to investigate the merits of the plan. Mr. Lott pro-

poses to organize a company with \$600,000 capital for the purpose.

Huntington, W. Va.—It is reported that a company has been formed to complete an electric line from Huntington to Hanging Rock by way of Central City and Kenova. It is reported that the Ashland & Catlettsburg Street Railway Co. is interested in the scheme. W. L. Rings, at Ashland, Ky., is president of the latter company.

Jasper, Texas.—E. I. Kellie, one of the company interested in building the railroad line from Jasper to a connection with the Gulf, Beaumont & Kansas City road, advises the Manufacturers' Record that the road will be twenty miles long, and that the people in Jasper and vicinity will do the grading; also furnish the ties for the line. A survey has been made.

Jonesboro, Ark.—A correspondent of the Manufacturers' Record states that J. E. Jones is president and treasurer of the Jonesboro, Lake City & Eastern Railroad Co., and E. T. Brown, secretary. About six miles of the line have been graded and work is now in progress. The line is to be about sixteen miles long, and it is understood will be operated when completed as a branch of the Kansas City, Fort Scott & Memphis system. The latter company is to furnish the rolling stock.

Kansas City, Mo.—President A. E. Stillwell, of the Kansas City, Pittsburg & Gulf road, advises the Manufacturers' Record that from the present indications the line will be completed and in operation between Kansas City and Port Arthur by August 1, and that the road will then be ready to handle export business.

La Follette, Tenn.—It is reported that the Tennessee Northern Railway line will be ready for operation about July 1. Three bridges are being built for the line, and it is stated that about 600 men are at work along the right of way.

Little Rock, Ark.—The Senate has decided favorably on the bill to allow the employment of State convicts on a railroad which it is proposed to build to connect with the Little Rock & Memphis road. The governor and other State officers are authorized as a State board, to promote this and other lines. Hu. L. Brinkley, of Memphis, Tenn., is one of the promoters of the enterprise.

Ludlow, Ky.—The company which is promoting the railroad line through Ludlow from Crescent Springs to Erlanger has been incorporated, with the title of the Crescent Springs & Erlanger Electric Street Railway Co., with \$10,000 capital. R. H. Crisler, of Ludlow, and M. L. Green, of Crescent Springs, are among those interested. The road will be about seven miles long.

Mobile, Ala.—It is rumored that the officers of the Illinois Central system have been examining the Mobile, Jackson & Kansas City road, with a view of purchasing the line and completing it to a connection with the Illinois Central. This would give the Central an entrance into Mobile. Stuyvesant Fish is president of the company.

Mocksville, N. C.—The question of completing a branch of the North Carolina Railroad between Mocksville and Mooresville has been revived. The Chamber of Commerce of Winston-Salem has adopted resolutions in favor of the project. If the line is built the work will probably be undertaken by the Southern Railroad Co., of which C. H. Hudson, 1300 Pennsylvania avenue, Washington, D. C., is chief engineer.

Montgomery, Ala.—The Hanover Construction Co., general contractor for the extension of the Montgomery & Tuscaloosa division of the Mobile & Ohio Railway system, has let the entire contract for furnishing crossties and track-laying to McCabe & Steen. The contract covers a distance of 210 miles.

Morganton, N. C.—It is reported that a company may be formed to build a railroad line, to be operated by electricity, from Morganton to Blowing Rock, a summer resort thirty-three miles distant.

New Orleans, La.—The Illinois Central Company is making extensive improvements to its Southern division, which includes the reballasting of an extensive section of the road.

Parkersburg, W. Va.—It is reported that the Little Kanawha Railroad Co. has decided to begin constructing its line between Parkersburg and what is known as Reedy Creek within a few weeks. The first section of the road to be built will be about thirty miles long. H. C. Jackson, at Parkersburg, W. Va., is president of the company.

Red Star, W. Va.—The Red Star Railroad Co. has been formed, with \$20,000 capital, to build a railroad from Red Star, in Fayette county, to a connection with the New River

Railroad with Wolf Creek, in the same State.

Rowlesburg, W. Va.—It is stated that about 150 men are at work on the Cheat River Railroad, and that track has been laid for a distance of about three miles from Rowlesburg. It is calculated to build about thirty-one miles of this line by January 1.

San Antonio, Texas.—It is announced that the people of Stockdale, Texas, have raised a bonus to build the extension of the San Antonio & Gulf Shore Railway to that town, and that construction work will begin immediately. Oscar Bergstrom, at San Antonio, represents the owners.

Sedalia, Mo.—The preliminary survey of the Sedalia, Marshall & Northern Railroad has been completed between Sedalia and Miami, Mo., and it is expected to complete the surveys within a few days. C. H. Zell is assistant engineer. The distance is forty miles. A. T. Strong, of Sedalia, is interested.

Thomasville, Ga.—The parties interested in completing the railroad line from Thomasville to Augusta, Ga., by way of Tifton, have organized a company, with \$500,000 capital. The incorporators include Walter M. Clements, W. W. Ashburn, of Eastman, Ga.; George W. Parrott, of Atlanta, Ga.; H. Merrill and J. W. Reid, of Thomasville, Ga., and M. J. Parrott, of New York. The distance between the towns is about fifty miles, and it is proposed to complete the system by building several short lines to connect with railroads already in operation.

Topeka, Kan.—Governor Leedy, of the State of Kansas, is promoting a scheme to build a railroad line through Kansas, Nebraska and Oklahoma and Texas, to terminate at some point on the Gulf. It is calculated that the road will be 1000 miles long, and to cost \$12,000 a mile. The governor may be addressed, at Topeka.

Waco, Texas.—Vice-President R. P. Duncan, of the Waco & Sabine Pass Railroad Co., advises the Manufacturers' Record that surveys have been completed from Waco to the line of Leon county, and will be continued to the terminus, on the Gulf of Mexico. The road will be 240 miles long, and bonds will be issued to aid its construction. Contractors will be invited to bid upon the construction of the line when surveys are completed. James B. Baker is president of the company, and George B. Gurley, chief engineer.

#### Street Railways.

Beaumont, Texas.—It is reported that parties from Pittsburgh, Pa., have determined to build an electric street railway in Beaumont and the suburbs.

Meridian, Miss.—It is reported that John Kemper, of Enterprise, Miss., has purchased a half interest in the Meridian Electric Street Railway, and that he may extend the lines; also improve the service.

St. Louis, Mo.—The Terminal Railroad Association has obtained a franchise to operate a street railway across the Eads bridge, over the Mississippi river, and in the towns opposite St. Louis. Julius S. Walsh is president of the company.

St. Louis, Mo.—It is reported that the East St. Louis Street Railway Co. has determined to build two extensions to its system, one to Gross's Park and the other to what is known as the Rock road. M. Harrold is general superintendent of the company.

#### Machinery, Proposals and Supplies Wanted.

**Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.**

Boiler and Engine.—Jacobs & Wadsworth, Sublime, Texas, want a 10 or 15-horse-power engine and boiler, gasoline or steam, new or second-hand.

Boilers.—Office Lighthouse Engineer, Boston, Mass.—Sealed proposals will be received at this office until 7th of June, and then publicly opened, for furnishing and delivering six boilers of the locomotive type, with smokepipes for fog signal use. Specifica-

tions, blank forms of proposal and further information will be furnished on application at this office. The right is reserved to reject any or all bids and to waive any defects; W. R. Livermore, major of engineers, U. S. A., engineer first and second-light-house districts.

Bridge.—Sealed bids will be received by the secretary and treasurer up to the 18th of June for the building of an extension of 141 feet to the Catawba toll-bridge. Pillars, abutments and all material necessary will be furnished. See old bridge for pattern; J. L. Lysterly, secretary and treasurer, Hickory, N. C.

Bridge.—Sealed proposals to construct an iron bridge across Catawba river, at Harris's Ferry, in York county, South Carolina, will be received until June 14, on which day contract will be awarded.

Plans and specifications may be seen at office of J. M. Spratt, Fort Mill, S. C. Bidders must deposit check for \$500 before submitting bid. Supervisor reserves right to reject bids. The successful bidder must enter into a written contract with the supervisor and furnish bond in double the amount of his bid, with surety to be approved by supervisor; T. G. Culp, supervisor York county, Fort Mill, S. C.

Cotton-gin Equipment.—H. H. Sparrow, Hawkinsville, Ga., wants to buy improved elevator system for ginnery.

Cottonseed Machinery.—See "Fertilizer Machinery."

Dredging.—U. S. Engineer Office, 166 Granby street, Norfolk, Va.—Sealed proposals for dredging the southern branch of the Elizabeth river, Va., will be received here until June 22, and then publicly opened. Information furnished on application; Thomas L. Casey, captain, engineers.

Drilling Machinery (for wells).—The Greer Machinery Co., Knoxville, Tenn., wants best dealers' prices on drills for oil wells from 1500 to 2000 feet deep; also state users' prices.

Dump Cars.—C 203, Sun Office, Baltimore, Md., wants dump cars to hold three-quarters to one and a-half tons of dirt.

Electric-light Plant.—The city of Ozark, Ala., is desirous of granting franchise and charter for electric-lighting plant. For information address I. E. Edwards, city engineer.

Engine.—The Blees-McVicker Carriage Co., Macon, Mo., F. W. Blees, secretary, wants bids on 100 horse-power Corliss engine and boiler to suit.

Fertilizer Machinery.—J. S. Barrow, Louisburg, N. C., wants machinery for a small plant for manufacturing fertilizers from cottonseeds.

Gasoline Engine.—See "Boiler and Engine."

Gasoline Engine.—Wanted—A second-hand gasoline engine, from two to ten horsepower, in first-class condition, and suitable for running small motor. Send price and size of machine; also terms. Address A. J. Godard, Abbeville, La.

Hoisting Engines.—Sanford & Brooks, 21 South street, Baltimore, Md., want to rent or buy two second-hand double-drum hoisting engines, or one four-drum hoisting engine.

Knitting Mills.—J. C. Preacher, Brunson, S. C., wants full information regarding the manufacture of knitted goods, cost of machinery, etc.

Laundry Machinery.—J. H. Kennedy, Gastonia, N. C., wants proposals and estimates on latest-improved outfit for laundry.

Machine Tools.—The Florence Wagon Co., Florence, Ala., wants second-hand three-cylinder, 24-inch sanding machine, modern make.

Machine Tools.—Watervliet Arsenal, Watervliet, N. Y.—Sealed proposals, in triplicate, will be received until June 19, for lathes, etc. Information furnished on application to Lieut. Col. Isaac Arnold, Jr., ordnance department.

Railway Equipment.—O 876, Sun Office, Baltimore, Md., wants about 450 yards of small T rails and three trucks for same.

Railway Equipment.—W. C. Petty, manager Carthage Railroad, Carthage, N. C., will be in the market for 40-pound steel rails, new or second-hand.

Railway Equipment (Electrical).—The Riverview Electric Street Railway Co., of Beaver Falls, Pa., is in the market for construction and material. Plans and specification for the work and material can be seen at the office of H. T. Barker, company's engineer, Beaver Falls. Bids for above work and material will close Friday, June 4, 1897, at 5 o'clock P. M. Address all bids, sealed and marked "Proposals for Street Railway."

to H. T. Barker, Beaver Falls, Pa.; or J. M. Hughes, Beaver Falls, Pa.

Shingle Bands.—The Georgia Shingle Co., Atlanta, Ga., (3 North Forsythe street) wants to buy shingle bands fourteen to eighteen inches long, with two holes punched in both ends; will use about one ton per week.

Spoke Machinery.—See "Woodworking Machinery."

Steam Tenders.—Mississippi River Commission, 2732 Pine street, St. Louis, Mo.—Sealed proposals, in triplicate, for construction of three stern-wheel steam tenders will be received here until June 24, and then publicly opened. Information furnished on application; H. E. Waterman, captain engineers, secretary.

Telephone Equipment.—The Boone & Kannahwa Telephone Co., J. F. Atkins, manager, Madison, W. Va., will want wire, insulators, brackets, tools for construction, etc., of 40-mile line, with twelve stations.

Water Works.—A. G. Flirth, Standard, Fla., wants estimates on 1400 feet of six-inch pipe (two pieces fifteen feet long, eight pieces seven and a-half feet long, balance thirty feet); 600 feet of four-inch pipe in 30-foot lengths; 13,200 feet of one-and-one-quarter-inch pipe in 30-foot lengths; 1000 feet of three-quarter or one-half pipe in two-foot lengths; 975 special fittings for same; one boiler and pump to supply 650 to 800 gallons per minute against seventy to eighty feet head, through 300 feet of pipe; short suction pipe; one 10,000-gallon tank (metal or wood), metal tower for latter forty feet high. Wants prices on both black and galvanized pipe. Specifications of fittings, etc., will be furnished on application. Quote prices f. o. b. and delivered, Key West and Punta Gorda, Fla.

Wire (Barbed).—D. W. Brown, Wellborn, Fla., wants a lot of barbed wire.

Woodworking Machinery.—See "Shingle Bands."

Woodworking Machinery.—Smith & Sons, Pikeville, Tenn., want to buy a small planer and matcher and resaw.

Woodworking Machinery.—The Blees-McVicker Carriage Co., F. W. Blees, secretary, Macon, Mo., wants bids on woodworking machinery for carriage factory; about \$4000 will be expended.

Woodworking Machinery.—Jacobs & Wadsworth, Sublime, Texas, want a small sawing machine for short logs for spokes.

#### TRADE NOTES.

Architect's Office.—Mr. H. C. McCormant, of Clifton, Ariz., will establish offices for the conduct of a general architect's business and for general contracting.

Estimating on Drainage Contract.—Mr. John L. Stuart, representing James Stewart & Co., is now at the Grunewald Hotel, New Orleans, La., preparing an estimate for the large drainage contract in that city.

New Timetable.—The Wheeling & Lake Erie Railway has issued its new timetable, taking effect May 30. A complete list of the stations between Toledo and Wheeling is given, together with the stations and times for arrival and departure on the Ohio river branch from Wheeling to Steubenville, O.

Planing Mill.—An excellent opportunity to engage in the planing-mill business in the yellow-pine section of North Carolina is being offered by Mr. E. T. Lamb, attorney, of Elizabeth City, N. C. A complete plant is offered, located forty miles south of Norfolk, within easy reach of markets by rail and water.

Establishing European Agencies.—Mr. Christian Wals, president of the Wals & Roos Punch & Shear Co., of Cincinnati, O., is at present making a trip on general business intent throughout Europe in the interests of his company. Agencies are being established in the prominent cities of the Continent to handle the company's export trade.

Saw and Planing Mills for Sale.—The saw and planing mills located in the Cumberland and Tennessee river lumber region, noted in our last issue as for sale, earned over \$10,000 in a single year, and not \$100,000, as was stated by error. Information regarding this opportunity of embarking in a successful and lucrative business can be obtained by addressing Wm. R. Brown, Jr., Metropolis, Ill.

A Busy House.—The Baily Manufacturing Co., of Elkin, N. C., the well-known manufacturer of cross arms, insulator pins and brackets, is at present operating its factory day and night, trying to keep up with orders. The company lately made a large

shipment to Canada, and shortly will make a shipment of seven carloads to Mexico. Judging from this, the electrical industries must be improving on our north and south borders.

Locomotives for Sale.—The Lake Street Elevated Railroad, in Chicago, has recently changed its motive power to electricity, and the "Alley" is equipping as rapidly as possible. These changes have put in the market some fine steam locomotives, in good condition, at fair prices, and prospective buyers of any machinery in this class would be benefited by making inquiries concerning these engines. Messrs. Fitzhugh & Co., of 1634 Monadnock Building, Chicago, Ill., can be addressed for full particulars.

Slow-speed Generator.—The C & C slow-speed generator has all parts interchangeable, low temperature increase, highest efficiency, large self-aligning self-oiling bearings, slotted armatures, reaction brush-holders, and automatic regulation at all loads. Such are the claims made for this machine by the C & C Electric Co., of 143 Liberty street, New York city. These generators are furnished in sizes from 25-kilowatt upward, and possible purchasers are invited to write for prices and specifications.

A Weather-proof Paint.—A specially-prepared weather-proof paint, consisting of a dry powder, requiring the addition of cold water only to make it available for use, is placed on the market by Alden Speare's Sons & Co., of Boston, Mass. This paint is specially adapted for use in country homes, barns, fences, freight sheds, buildings connected with trotting parks, etc., where hard usage is expected. Its manufacturers claim for it fire-proof qualities, efficiency, durability and economy. A sample color card is sent on application.

Ball Engines in Demand.—The East Side Electric Co., of Detroit, Mich., owing to an increase in its business, has ordered from the Ball Engine Co., of Erie, Pa., a 150-horse-power engine; and the owners of the Clans Spreckles Building, a new structure nineteen stories high, at the corner of Third and Market streets, San Francisco, have recently awarded a contract for three 150-horse-power, vertical cross-compound engines, each of which is arranged for direct connections to a 100-kilowatt General Electric direct-connected machine, to the same company.

Emery Wheels Being Shipped to Sweden.—The Vitrified Wheel Co., of Westfield, Mass., recently shipped to Sweden a large number of its "Cyclone" wheels for saw-gumming purposes. With this order were included two that weighed over one-half ton each. The manufacturers claim for their "Cyclone" wheel very rapid cutting qualities, without glazing or drawing the temper from the tool or saw; durability beyond the average; ability to run dry or in water; absolute freedom from odor. Circulars will be sent to all who desire to be fully informed as to the merits of this and other kinds of emery wheels manufactured by them.

Lumber Plant for Sale.—The Southern Log Cart & Supply Co., of Mobile, Ala., recently purchased the large saw-mill plant of the Jordan Lumber Co. The plant consists of a saw mill of 50,000 feet daily capacity, dry-kilns, boom, and everything necessary around a complete saw mill, everything being in first-class condition. Lease of mill site lasts for seven years. This is undoubtedly a fine location for a saw mill to do cutting for export, and the export trade is said to be paying at the present time. To anyone wishing to go into the saw-mill business in this section this is an opportunity seldom offered. This mill will be sold at a bargain.

Bicycle Chain Lubrication.—The ideal lubricant should not only lubricate the chain and sprockets, but the pivot or pins holding the links of the chain also. Lubricants made from pure flake graphite are superior to any other when properly made. An article combining a perfect lubricant and rust preventive, put up in convenient form, is something desired by every bicyclist. To all such, Dixon's graphiteo will be not only welcome, but indispensable. Dixon's graphiteo is a preparation of a very choice graphite, finely pulverized, and a pure petroliatum, warranted not to gum or become rancid. It is put up in collapsible tubes and is manufactured only by the Joseph Dixon Crucible Co., Jersey City, N. J.

Shipping Belting to Egypt.—American manufacturers are reaching every part of the world in their search for new fields to conquer. Last Saturday the Akron Belting Co., of Akron, O., made a shipment of belt-

ing to the are the companies and that the States are the ones that obtain the equipment. The company to con- quality beltin. Flou eractic ment South the g Cham cently ing on Va., f rator to 150 with Virgin system. Willia gyrate 150 b over, empa Win trial. Med For the Found the F A p 1st of O., or Proce the U expla an in mate cores found descri Pepper dry c was, larlly subje trade sever left o New toun for the engin or ga The bader vinary first that an en said when ing mach mark engin J. L. Wor est in have tries, will Recor More that of the her Equi erect fort Sout expo and celli try, the de in anot An ex x213 erect respon comm illity fort furni and merc lawy all b

ing to Egypt. The facts regarding this order are that, after submitting a sample lot, the company received an order from its customer for 8500 feet of "Akron" brand of single and double belting, the customer stating that he had not previously been able to obtain belting from England or the United States that was satisfactory for use on cotton gins. This transaction, coupled with the extensive trade which the Akron Company is doing in the Southern States, tends to confirm the claims made for the excellent qualities of its make of pure oak leather belting.

Flour Mills Using Wolf Machinery.—The erection of new flour mills and the improvement of established plants throughout the South and other sections continues to see the growth of the general use of the machinery made by Aug. Wolf & Co., of Chambersburg, Pa. This concern has recently closed a number of contracts, including one with Smith & Co., of Purcellville, Va., for changing that firm's mill to the gyrator system, and from a capacity of 100 to 150 barrels daily. Other contracts were with Luther Brill, of Star Tannery, West Virginia, for a new 30-barrel gyrator sleeve-system flour mill; Undine Milling Co., of Williamsport, Md., for remodelling to the gyrator system and increasing capacity to 150 barrels; Penn Flour Mill Co., of Hanover, Pa., for same work as previous-named company, and with W. B. Baker's Sons, of Winchester, Va., for four additional gyrators, this order being the result of a year's trial of these machines.

Meeting of the Foundrymen's Association. For the sixty-ninth annual meeting of the Foundrymen's Association, held this week, the following programme was arranged: A paper by Mr. B. S. Knight, chemist of Addyston Pipe & Steel Co., Cincinnati, O., on the subject of "Dr. Fletcher's New Process of Making Cast-iron Pipe Without the Use of Hay-rope and Mully." Mr. Knight explains the process very clearly. This is an innovation in foundry practice, and will materially lessen the cost of making the cores for cast-iron water and gas pipe. Every foundryman will appreciate this address. A description was given by Mr. J. Harry Pepper, of the Iron Age, regarding the foundry convention lately held at Detroit, which was, by the way, very successful, particularly in a business way, as it brought about subjects of vital interest to the foundry trade. In addition to the above there were several subjects for discussion which were left over from the last meeting.

New Rotary Engine Patented.—It is announced that patents have been allowed for the L. B. Robertson rotary engine. This engine can, it is claimed, be run by steam or gasoline, and for bicycles with powder. The inventor says that eight pounds of powder will run a bicycle 100 miles on an ordinary road; that the engine is the only and first practical rotary one ever invented, and that it can be used for all purposes to which an engine of any kind can be applied. It is said that it does away with belting in shops where it is used, and is superb for hoisting purposes, traction engines, threshing machines, etc. Many other claims for remarkable efficiency are made for the new engine. Mr. M. E. Thornton, manager of the J. L. Latta Compressed-air Water-elevator Works, at Hickory, N. C., has a half interest in the engine, and later on, when patents have been secured in all the foreign countries, an illustrated description of the engine will be published in the Manufacturers' Record.

Modern Office-building Proposed.—In order that the city of Norfolk, Va., may be abreast of the times in everything which relates to her advantage, it is proposed to form the Equitable Building Co., for the purpose of erecting a building, which, for utility, comfort and safety, shall be equal to any in the South. The immense increase in Norfolk's exports of cotton, grain, provisions, lumber and coal during the past ten months, excelling in percentage any port in this country, makes it evident that to accommodate the present needs and to meet a growing demand for fine offices, there must be erected another building, equal to any in the city. An option of a lot has been obtained, 200 x 213 feet, upon which a building will be erected, six stories high, beautiful in architecture and absolutely fire-proof in every respect. The offices in this building will be commodious and furnished with every facility which business may require or comfort suggest. The entire building will be furnished with cistern water, light and heat, and should become the rallying point for merchants, manufacturers, doctors and lawyers, and thus be the headquarters for all business, thereby assuring convenience and dispatch. Inducements will be offered

traveling salesmen to occupy some of the large rooms, where their samples can be exhibited. One of the facilities will be a fixed basin in each suite of rooms, and in some an iron safe embedded in the walls. Detached from the office building will be comfortable rooms for young men at a moderate rental, with free parlor or room for games and a bathroom on each floor. A prospectus leaflet containing full particulars of this enterprise can be obtained by addressing W. D. Reynolds, P. O. Box 267, Norfolk, Va.

Awards for Essays.—The American Philosophical Society, held at Philadelphia for promoting useful knowledge, has the honor to announce that an award of the Henry M. Phillips prize will be made during the year 1897; essays for the same to be in the possession of the society before the first day of May, 1897. The subject upon which essays are to be furnished by competitors is: "The Development of the Law, as Illustrated by the Decisions Relating to the Police Power of the State." The essay shall not contain more than 100,000 words, excluding notes. Such notes, if any, should be kept separate as an appendix. The prize for the crowned essay will be \$2000, lawful gold coin of the United States, to be paid as soon as may be after the award. The society invites attention to the regulations governing said prize, which are sent in circular form on application. Messrs. William V. McLean, Craig Blodde, Mayer Sulzberger, C. Stuart Patterson, Joseph C. Fraley, Frederick Fraley, president of the society, and J. Sergeant Price, treasurer of the society, compose the committee in charge of the award.

A Belting for Damp Localities.—Messrs. I. B. Williams & Sons, Dover, N. H., are making a great success of a brand of leather belting that by reason of being fastened with brass wire staples, as well as cemented with the best of cement, and being treated with a water-proofing that will shed water, is especially adapted to localities where dampness prevails. Its being fastened in this way does not stiffen it in the least, as is usually the case when riveted, pegged or sewed. The staples are of flexible brass wire, made, driven and clinched by machinery, not only allowing the belt to retain all its flexibility, but providing additional power as well. It is practically indestructible, and is said by its makers to be superior to all others for small pulleys and high speed, and its cost is no greater than any other belt doing the same class of work. For saw mills, pulp mills, brick yards, bleacheries, etc., where the hardest service under the least favorable conditions is required, this belting has proved its reliability by the service rendered. Full particulars may be had by addressing the manufacturers, Dover, N. H.

Locomotive Works' Exhibit.—The Baldwin Locomotive Works were founded by Mr. Matthias W. Baldwin, who constructed in 1831-32 his first locomotive, the "Old Ironsides." Thenceforward, until his death, in 1866, he was engaged exclusively in locomotive building, and was prominently identified with the development of the American locomotive. May 1, 1897, the Baldwin Locomotive Works have constructed upwards of 15,300 locomotives, the greater number for railroads in the United States, the remainder in Canada, Nova Scotia, Prince Edward Island, Newfoundland, Cuba, St. Domingo, Porto Rico, Mexico, Yucatan, Guatemala, Salvador, Nicaragua, Costa Rica, United States of Colombia, Peru, Chile, Ecuador, Bolivia, Brazil, Uruguay, Argentine Republic, Sandwich Islands, New Zealand, Australia, Japan, Russia, Norway, Sweden, Spain, Italy, South Africa, Palestine and China. The annual capacity of the works is 1000 locomotives. The greatest production was reached in 1890, when, exclusive of extra parts for repairs, equal to nearly 100 locomotives, 946 locomotives were completed. The Baldwin Locomotive Works has an interesting exhibit at the Tennessee Centennial.

Electric-light Plant in Underground Workings.—A novelty in the use of the electric-lighting plant is for the purpose of illuminating underground workings and galleries in a cement quarry. In fact, this is probably the first instance in which electricity has been applied to lighting in this manner. Near Kingston, N. Y., are located the quarries and mills of the F. O. Norton Cement Co., and it is for this company that the General Electric Co., of New York city, has made the installation referred to. The electric plant consists of a 30-kilowatt alternating-current incandescent dynamo, manufactured by the General Electric Co., as, in fact, are the lamps and wiring devices of which the plant consists. This machine is driven by a 10x12 horizontal automatic Ball engine. There are now installed 103 incan-

descent lights, lighting the kilns shed, where the calcined product is taken to the crushers, the mills, the packing-rooms, the shipping-rooms, and various other departments of the factory. The quarries are lighted by forty incandescent lamps and fourteen arc lamps. The current is used at a pressure of 300 volts, being reduced by transformers to the necessary voltage for arc and incandescent lamps. Each arc lamp is operated by its individual transformer. In addition, one or two incandescent lamps on flexible cords, protected by wire cages, will be operated from the same transformer, where particularly close light is required. Arc lamps are also connected by flexible cord to the transformers, which are placed back of the nearest pillar to the face of the gallery. The lamps are supported from the roof of the gallery by means of rope and pulley, and give a most satisfactory general illumination for the whole work. The men have suspended a light for handling the drills and shoveling the broken stone in the loaded cars, etc. Incandescent lights, fixed in position, are placed at the main platforms, turntable, etc., while lamps for the purpose of general illumination are also placed at moderate intervals along the galleries now being operated. When the blasts are fired the lamps are unhooked and taken back behind the pillars. The above installation has entirely done away with oil lamps, the use of which in many cases rendered work almost impossible, it being necessary to place the drills at the very top of the gallery on a shelf sufficiently below the roof for the erection of the drill. In the days of oil lamps the room was so filled with smoke and fumes that the men could only work there for a short time; in fact, the whole mine was rendered murky and disagreeable to work in by the odor from the lamps. The circuits are carried into the quarries from the powerhouse, a distance of about 400 feet in one direction and 1500 feet in the other. They are carried along the galleries fastened to insulators fixed to plugs, driven into holes in the roof of the worked-out galleries. From various points main loops are carried to the galleries, where the work is going on. In conversation with the manager and engineer, it is learned that no considerable difference can be detected in the amount of coal used since the introduction of electricity, and they are fully satisfied that it costs no more than they were obliged to pay each month for oil under the old method. They are equally certain that the amount of work which can be done by means of electric illumination is greater, while far more easily performed. The present electric plant is only working to about one-half its capacity, and lights will be added as the work is extended.

## TRADE LITERATURE.

Spoke and Wheel Machinery.—Automatic machines for this class of work, embodying new and advanced features, are displayed in a catalogue issued by the Empire Machine Works, Mount Morris, N. Y. Some useful facts are presented of practical bearing on the woodworking business. The machinery of this concern is in use in all the timber States and in Canada, and the special features they possess meet with strong endorsement. In the catalogue is shown spoke and handle lathes, hand-feed tenon and bevelers, hand-feed throats, hand-feed tenon and bevelers, and a number of other devices of this class.

Sioux Corliss Engines.—The remarkable economy of fuel and singularly perfect regulation peculiar to the Corliss type of engine are developed to a high degree in the Sioux engine, which is built only by the Murray Iron Works Co., Burlington, Ia. A catalogue issued by this concern is handsomely illustrated, showing the details that interest engine users. It also gives much useful data on the subject, and presents an array of features by which the popularity of its engine is extended. A chapter is devoted to the tubular boilers made by this company, which gives practical suggestions on the subject of serviceable, economical and durable boilers.

Limitation of Government in Water-power Plants.—An advance proof of an article on "The Limitations of Government in Water-power Plants" has been received from Mr. Mark A. Replogle, chief engineer of the Republic Governor Works, of Akron, O., and author of the article in question. The article has been prepared with a special purpose of using it in his company's correspondence with parties who are contemplating the development of water power, and are consequently investigating the government of water wheels. The company says: "One of the difficulties we encounter is the vague idea that power storage in the

shape of fly-wheels is quite unnecessary in regulation of speed of water-wheels. It is a rare thing to find an old water-power plant that has any such provision. Imagine all the stationary steam engines of the country stripped of their fly-wheels and the engineers required to furnish regular speed for varying loads. That is often substantially the problem before the maker of water-wheel governors; but the use of water power for electrical purposes has brought the question of close regulation of speed of wheels to the front, and every hydraulic engineer, every maker of water-wheels, and every user of water-wheels for electric work is keenly alive to the difficulties of the problem and its solution."

Westinghouse Steam Engines.—A new catalogue of the Westinghouse steam engines has been issued and is now being distributed. In the new issue considerable space has been devoted to full-page illustrations, and in thus making the pictorial feature prominent the Westinghouse Steam Engine Co., of Pittsburg, Pa., manufacturer of the Westinghouse steam engines, has adopted what it believes to be the best form for trade circulars, particularly those relating to machinery. The illustrations have been selected with a view to showing a limited number of important illustrations, from which, it is hoped, the user of steam power may gain some impression of the application and wide range of service of Westinghouse engines. The excellent quality of all materials entering into the construction of these engines is assured by actual tests, only iron and steel being used that meets standard specifications, and the babbitt and bronze, made after this company's own formula, are of uniform grade and unquestioned superiority. Modern tool equipment of the latest-improved designs and the highest grade of skilled labor that the market contains, combine, with other facilities, to place these machines of the Westinghouse Company beyond criticism. Finished work from the shop is inspected thoroughly and systematically in every detail, insuring a degree of excellence of the highest quality. Present or prospective users of steam engines should have a copy of this catalogue before them.

Power-transmission Appliances.—A most complete illustrated catalogue of power-transmission appliances has been issued by the Dodge Manufacturing Co., of Mishawaka, Ind. In presenting this volume to the mechanically-engaged public the company wishes simply to call attention to the complete character of the work. Its aims and efforts are constantly directed towards the perfecting of power-transmitting machinery and the advancement of the practice governing the usages of this very important branch of mechanics. The present age is one of progress and economy; it therefore behoves every owner, or prospective owner, of a power plant to familiarize himself with the best practice in transmission engineering. Money saved at the coal pile means larger dividends for the stockholders. The Dodge appliances are kept up to date, and on the basis of first-class workmanship, improved methods and designs, and reasonable prices, consistent with high standard of products, the makers solicit orders. The facilities of this company for manufacturing are claimed to be the most extensive of any one plant making a specialty of power-transmission appliances, extant in this or any other country, and they guarantee to fill any contract in this line, no matter how large, promptly and in a most satisfactory manner. The catalogue is symbolized "B-6;" it is of standard size, 6x9, and includes some 300 pages of the very latest and most-improved power transmitting appurtenances, covering the Dodge patent Independence wood-split pulleys, with patent standardized system of bushings; a copy of the decision rendered by Judge Sage, sustaining the patent; special iron-centre wood-rim dynamo pulleys, which have been so greatly appreciated by the electrical trades; the famous Dodge patent American system of rope transmission, which has leaped into such popular favor throughout the United States; wood-rim fly-wheels, which have shown that accidents from fly-wheel explosions are crimes which can be avoided; ingenious system of capillary oiling bearings, whereby clean oil, drawn from the top of the oil reservoir, is always used, and the frequent refilling of the oil chamber made unnecessary. Also a full line of drop and post-hangers, pillow blocks, special pulleys for special purposes, collars, couplings, and many of the indispensables in approved transmission engineering, and the company's complete manufacture of grain-elevator machinery. This book will be sent to manufacturers and mechanical engineers upon request by express, prepaid.



## TABLE OF CONTENTS.

EDITORIAL:	Page.
Fair Treatment of Railroads.....	323
Senator McLaurin.....	323
Hints for Southern Mills.....	323
Charleston's Direct Trade.....	324
Acquittal of John E. Seales.....	324
Alabama's Mineral Production.....	324
Iron Fortifications.....	324
Lessons Drawn from Oregon.....	324
Railroads and the Exposition.....	325
Literary Notes.....	325
RAILROAD NEWS:	
The Arkansas Railroad Project.....	326
San Antonio to Galveston.....	326
More Illinois Central Projects.....	326
Mobile & Birmingham.....	326
May Build to Signal Mountain.....	326
A Traveling Industrial School.....	326
May Enter Charleston.....	326
Ohio River & Charleston.....	326
K. C. P. & G. Terminals.....	326
Changed to Standard Gage.....	326
Another North and South Project.....	326
Southern's Bright Outlook.....	327
English View of Illinois Central.....	327
Through Service from Louisville.....	327
Savannah's Street Railways.....	327
To Inspect the Texas.....	327
A Report Denied.....	327
Railroad Notes.....	327
Industrial News from Birmingham.....	327
LUMBER:	
Lumber Market Reviews:	
Baltimore.....	328
Norfolk.....	328
Charleston.....	328
Savannah.....	328
Pensacola.....	328
Mobile.....	328
Beaumont.....	329
Lumber Notes.....	329
MECHANICAL:	
American Safety Tackle Black (Illus.).....	330
Small Steam Capstans (Illus.).....	330
The Temperley Transporter (Illus.).....	330
A New Style Bliss Reducing Press (Illus.).....	331
Double-Action Cam-Drawing Press (Illus.).....	331
A New Ironclad Electric Motor (Illus.).....	331
A Regrinding Swing Check Valve (Illus.).....	331
The Hascall Steam Generator (Illus.).....	332
Patent Automatic Steam Shear (Illus.).....	332
TEXTILES:	
Building Cotton Factories.....	333
To Add 5000 Spindles.....	333
Another Cotton Mill for Charlotte, N. C. ....	333
Textile Notes.....	333
COTTONSEED OIL:	
The Market for Cottonseed Products.....	333
Cottonseed-Oil Notes.....	333
Cuban Tobacco Growing.....	333
CONSTRUCTION DEPARTMENT:	
New Enterprises.....	334
Building Notes.....	335
Railroad Construction.....	335
Machinery Wanted.....	336
Trade Notes.....	336
Trade Literature.....	337, 339
PHOSPHATES:	
Phosphate Markets.....	338
Phosphate and Fertilizer Notes.....	338
Iron Markets.....	338
FINANCIAL NEWS:	
Illinois Central Bonds.....	338
New Corporations.....	338
New Securities.....	338
Dividends and Interest.....	339
Financial Notes.....	339

bonds to the extent of \$40,000 for courthouse purposes. They may be addressed, at Brunswick, Ga.

The United States Trust Co. of Baltimore has decided to increase its capital from \$100,000 to \$250,000. The company has elected Thomas H. Hodson as president; Frank J. Kohler, secretary; Clarence Hodson, trust officer; J. Wm. Garland, manager of the real estate department.

## Dividends and Interest.

Interest on the bonds of the Algiers Water Works Co. will be paid by the Louisiana National Bank of New Orleans.

The June interest coupons of the City & Suburban Railway Co., of Baltimore, will be paid by Alexander Brown & Sons, of that city. Messrs. Hambleton & Co., of Baltimore will pay the June interest due on the bonds of the Baltimore Trac-

tion Co. The First National Bank of Baltimore will pay the June interest on the Chesapeake Gas Co.

The Baltimore & Ohio Railroad Co. will pay June interest on \$5,956,000 worth of receivers' certificates, issued June 1 and December 1, 1896, in two lots. Interest will also be paid on the bonds of the Schuylkill River division of the Baltimore & Ohio.

## Financial Notes.

A dispatch from Hot Springs, Ark., states that the Arkansas National Bank has taken charge of the business of the State Exchange Bank of Hot Springs, which has discontinued business.

## TRADE LITERATURE.

History of Paints, Pigments and Colors.—This is a unique little volume, no effort having before been made to compile the multitude of facts which make up the history. It is the work of John McGovern, whose talent as a student and compiler bids fair to outshine the enviable reputation he has made as a newspaper man and author. The history enters exhaustively into the many points which go to make up present knowledge of paints and colors, each fact being treated in the epigrammatic style which Mr. McGovern has made his own. From the time of its publication the "History of Paints, Pigments and Colors" is standard, it being estimated that 2000 other publications must be searched to furnish the information contained in the little volume. Anyone interested in the subject can obtain the history free by writing to Heath & Mifflin Manufacturing Co., 170-172 Randolph street, Chicago.

**\$100,000**

**South Carolina & Georgia R. R.**  
FIRST MORTGAGE 5 PER CENT. GOLD BONDS.

## DUE 1919.

Gross earnings from July 1, 1896, to April 30 1897, (10 months)..... \$1,063,000  
Net earnings..... 434,000  
Against fixed charges for same period, including taxes and all charges on Augusta Southern..... 284,000

Leaving surplus..... \$150,000  
Traffic shows a gratifying increase since the Parsons management.

I offer any part of \$100,000 of these Bonds to net over 5 1/2 per cent. on investment.

**JACOB RUBINO,**  
3 Broad Street, Drexel Building,  
NEW YORK CITY.

FOR THE  
Renting and Purchasing

## OF

**Warehouses,  
Manufacturing Sites,  
Wharf,**

**and other Business Property,**

Apply to

**SAFE DEPOSIT & TRUST CO.**  
OF BALTIMORE.  
13 SOUTH STREET.

**Mercantile Trust & Deposit Co.**  
OF BALTIMORE.

Paid-up Capital, \$1,000,000.  
Surplus, \$1,000,000.

DEPOSITS RECEIVED  
On which interest is allowed, governed by current rates obtainable.

**TRUSTEES AND ADMINISTRATORS.**  
This company is a *Legal Depository* for funds in the hands of Trustees or Administrators, and allows interest on same pending distribution.

Authorized to act as Executor, Administrator, Guardian, Receiver or Trustee.

ACTS as Trustees of Mortgages of Corporations and accepts Transfer Agency and Registry of Stocks.

Safe Deposit Boxes for Rent.  
Vaults supplied for Storage of Silver Chests, etc.

JOHN GILL, of R., President.

J. WM. MIDDENDORF.

Members Baltimore Stock Exchange.

WM. B. OLIVER.

**MIDDENDORF, OLIVER & CO.**  
**BANKERS AND BROKERS,**  
No. 213 E. German Street, [KEYSER BUILDING.] Baltimore, Md.

Stocks and Bonds Bought and Sold on Commission. Special attention given to Municipal and other Investment Loans. Dealers in Foreign Exchange. Drafts on Europe and Letters of Credit furnished.

**SPERRY, JONES & CO.**

DEALERS IN **Southern Investment Securities,**

239 East German Street, Baltimore, Md.

OUR FACILITIES ARE UNEXCELLED.

**JOHN L. WILLIAMS & SONS,**

**BANKERS,**

Dealers in **RICHMOND, VA.**

**Southern Investment Securities,**

**MUNICIPAL BONDS A SPECIALTY.**

Correspondence Invited.

**Indelible Check**

... **Perforator**

PROTECT YOUR BANK ACCOUNT.

CHEAPEST  
AND  
BEST.

The work  
with this  
machine  
can not be  
altered.

Perforations  
Indelibly  
Inked.



Price \$5.00. Warranted for five years.

"Agents Wanted." Write for particulars.

**Wesley Mfg. Company**  
41 Park Row, Times Building,  
NEW YORK.

SURETY BONDS OF EVERY KIND.

**American Bonding & Trust Co.**

OF BALTIMORE CITY,

Equitable Building, Baltimore.

Total Resources \$1,091,550.49.

JAMES BOND, President.  
JOSHUA HORNER, First Vice-President.  
JOSEPH S. MILLER, Second Vice-President.  
JOHN T. STONE, Secretary-Treasurer.  
GEO. N. MACKENZIE, Asst. Secretary-Treas.

Accepted by the United States Government as Sole Surety on Bonds of Distillers, Importers, Custom House, Postoffice, Internal Revenue and other Government Officials and Employees, and by all Federal and State Courts. Gives Bond for Officers of Corporations, Lodges, Societies, etc., Clerks and all other Employees.

Does not act as Executor, Administrator, Trustee, Guardian, Receiver or Committee, BUT BONDS THOSE WHO DO ACT.

**WOULDN'T  
YOU LIKE  
TO OWN AN  
INTEREST IN  
A GOLD MINE?**

Suppose you write for particulars about

**THE BIG UNION MINING CO**

This company owns and is now opening up rich gold mines in the famous Leadville Gold Belt of Colorado. The officers and stockholders of the company are not speculators but are well-known conservative business men. Here are some of them:

## OFFICERS.

R. E. LYON, President.  
STEPHEN H. EMMENS, Vice-President.  
L. L. POWELL, Secretary.

H. B. TILDEN, Treasurer.  
ARCHIBALD H. TAYLOR, Gen'l Counsel.

## DIRECTORS.

B. L. Duke, the great tobacco manufacturer of Durham, N. C.  
W. T. O'Brien, of the American Tobacco Co., Durham, N. C.

Stephen H. Emmens, Pres't. of the Mining and Industrial Exchange, New York City.

R. E. Lyon, of Baltimore, Md.

Geo. C. Schuermann, of Baltimore, Md.

L. D. Heartt, Cashier First Nat'l B'k Durham, N. C.

H. B. Tilden, of Baltimore, Md.

The stock of this company has been listed on the New York Mining and Industrial Exchange.

The office of the company is at 89 Equitable Building, Baltimore, Md.

The treasury stock now being offered affords an investment opportunity that is well worth looking into.

The Big Union Mines, the property of this company, lie on the same contact vein with the most noted of the great Leadville mines. One of these the "Little Johnny" is the greatest gold mine in Colorado and perhaps in the world. Its present output is about \$300,000 per month. It paid last year \$1,600,000 in dividends and is now paying monthly dividends of \$100,000 to \$200,000.

J. WILLCOX BROWN, PRESIDENT.

LLOYD L. JACKSON, FIRST VICE-PRES.

HENRY J. BOWDOIN, SECOND VICE-PRES.

J. BERNARD SCOTT, Secretary and Treasurer.

## DIRECTORS

J. Willcox Brown, Leopold Strouse.  
Wm. A. Marburg, Henry Waiters.  
Basil B. Gordon, H. A. Parr.  
Lloyd L. Jackson, B. N. Baker.  
Fred. M. Colston, Andrew D. Jones.  
H. J. Bowdoin, James Bond.  
Joshua Levering, Alexander Brown.  
Frank Brown, Douglas H. Gordon.  
W. B. Brooks, Jr., Clayton C. Hall.  
W. H. Baldwin, J. D. Baker.  
Fredk. W. Wood, F. S. Bangs.  
F. M. Thieriot, John B. Garrett.

# Alphabetical Index of Advertisers.

For "Classified Index" see pages 3, 5 and 7.

<b>A</b>	Abbe, M. F. .... 21	Carver Cotton Gin Co. .... 39	Froehling, Dr. Henry .... 6	Mason Machine Works .... 38	Sabel Bros. .... 28
Adams, George S. .... 35	Castner & Curran. .... 8	Fuel Econmizer Co. .... 18	Mason Regulator Co. .... 45	Safe Deposit & Trust Co. .... 28	
Adams, William H. .... 6	C & C Electric Co. .... 48	Fulton, John. .... 6	McClave, Brooks & Co. .... 18	Sanderson, John. .... 33	
Ahrens & Ott Mfg. Co. .... 18	C. & B. Line. .... 43	Fulton Steam Boiler Wks. & Fdry. .... 16	McCully R. .... 20	Saunders, D., Sons. .... 13	
Aiken, Wm. Martin. .... 25	Chambers Bros. Co. .... 27	Furbush, M. A., & Son, Mch. Co. .... 38	M. Donald, John, & Sons. .... 6	Schieren Chas. A., & Co. .... 11	
Aiton & Wood. .... 25	Chapman, Wm. A., & Co. .... 25	G	McDowell, Hamilton. .... 42	Scott, Scott & Williams. .... 38	
Alabama Bridge & Boiler Co. .... 9	Chapman Valve Mfg. Co. .... 46	Gallert, S. .... 26	McFadden, Charles, Jr. .... 25	Scott, Nat. G. .... 6	
Alber & Byrne. .... 6	Charlotte Machine Co. .... 37	Gambrill, M. .... 27	McGowan, John H., Co. .... 45	Seabury, Charles L., & Co. .... 32	
Albro, E. D., Co. .... 28	Chattanooga Fdy. & Pipe Works. .... 46	Gandy Belting Co. .... 11	McKenna, David. .... 34	Shaw, Will. .... 27	
Alexander Bros. .... 10	Chattanooga Steel Roofing Co. .... 34	Garber, D. A. .... 25	McLanahan & Stone. .... 20	Shawhan Thresher Electric Co. .... 27	
Alexander & McLaughlin. .... 23	Chesapeake Belting Co. .... 11	Garrett, C. S., & Son. .... 35	Meadow Land & Improvement Co. .... 27	Sherwood Mfg. Co. .... 49	
Allen Anti-Rust Mfg. Co. .... 35	Chester Steel Castings Co. .... 13	Gates Iron Works. .... 21	Mecklenburg Iron Works. .... 14	Shultz Belting Co. .... 9	
Aising, J. R., Co. .... 20	Chicago Belting Co. .... 11	General Electric Co. .... 37, 48	Mercantile Trust & Deposit Co. .... 339	Siedler, C., President. .... 27	
American Bonding & Trust Co. .... 339	Chrome Steel Works. .... 13	General Fire Extinguisher Co. .... 8	Merchants & Miners' Transp. Co. .... 43	Simpson, H. P. .... 50	
American Cotton Oil Co. .... 40	Cincinnati Corrugating Co. .... 34	Gilbert, C. M., & Co. .... 6	Meres, C. R., Heater Mfg. Co. .... 9	Sinclair, S. H., Co. .... 8	
American Engine Co. .... 14	Cincinnati Elevator Works. .... 33	Glen Cove Machine Co., Ltd. .... 31	Mergenthaler, Ott., & Co. .... 8	Situations Wanted. .... 27	
American Ship Windlass Co. .... 32	Cin., Hamilton & Dayton R. R. .... 43	Globe Steam Heater Co. .... 16	Meridian Machine Shops. .... 39	Skinner Chuck Co. .... 29	
American Supply Co. .... 37	Cincinnati Screw & Tap Co. .... 33	Golden's Foundry & Machine Co. .... 22	Gould, Mfg. Co. .... 17	Smethurst & Allen. .... 49	
Andersen Jun & Co., J. .... *	Clark, W. J., Co. .... 40	Graphite Lubricating Co. .... 32	Graphite Lubricating Co. .... 32	Smith-Courtney Co. .... 9	
Anderson Water, Light & Power Co. .... 26	Clark, Jeremiah. .... 38	Gregory Co., C. E. .... 27	Gibson, M. .... 6	Smith, S. Morgan, Co. .... 45	
Andrews, A. H., Co. .... 29	Clenenden Bros. .... 13	Gulbert, John C. N. .... 38	Giddens, Charles. .... 28	Smith & Kirby Co. .... 28	
Andrews, Perry. .... 6	Climax Mfg. Co. .... 13	H	Gibson, Wm. H. .... 28	Snedier & Carr. .... 2	
Apollo Iron & Steel Co. .... 24	Cline Bros. .... 42	Haines, Jones & Cadbury Co. .... 50	Haines, Wm. S. .... 17	Snow Steam Pump Works. ....	
Armitage-Herschell Co. .... *	Clockon Steam Boiler Co. .... 15	Hales & Ballinger. .... 6	Hartford Steam Boiler Inspection. ....	Southeastern Lime & Cement Co. .... 44	
Armitage Mfg. Co. .... 35	Coburn Trolley Track Mfg. Co. .... 9	Harrington & King Perfatorial Co. .... 4	Hartley's Boiler Works. .... 16	Southern Foundry & Mech. Wks. .... 6	
Asbrand, C. W. .... 35	Cohoes Iron Fdy. & Mch. Co. .... 37	Hartford Steam Boiler Inspection. ....	Hascall Steam Generator Co. .... *	Southern Iron & Equipment Co. .... 38	
Asheville Woodworking Co. .... 26	Cole, Wm. H., & Sons. .... 42	Hawes Mfg. Co. .... 27	Hawes Mfg. Co. .... 27	Southern Iron Works. .... 22	
Ashtabula Tool Co. .... 40	Commercial Electric Co. .... 49	Hayes, O. S. .... 26	Hearns, W. H. .... 27	Southern Log Cart & Supply Co. .... 8	
Asphalt Ready Roofing Co. .... 50	Commercial Wood & Cement Co. .... 6	Help Wanted. .... 27	Hendrick Mfg. Co., Limited. .... 8	Southern Real Estate Exchange. .... 26	
Atkins, E. C., & Co. .... 31	Commonwealth Elec. Constr. Co. .... 49	Hench & Dromgold. .... 29	Hewitt, F. R. .... 26	Spear's, Alden, Sons & Co. .... 33	
Atlanta Terra Cotta Co. .... 8	Consolidated Engineering Co. .... 6	Herrick Mfg. Co. .... 27	Hickman, Williams & Co. .... 28	Sperry, Jones & Co. .... 339	
Austin White Bime Co. .... 6	Contractors' Plant Mfg. Co., Ltd. .... 41	Hieritz, Theo., & Son. .... 32	Hieritz, Theo., & Son. .... 32	Springfield Gas Engine Co. .... 19	
Automatic Circuit Breaker Co. .... 24	Cordesman Machine Co. .... 29	Hirsch, L. K. .... 28	Hoe, R., & Co. .... 4	Sprout, Waldron & Co. .... 23	
<b>B</b>	Cordesman, Meyer & Co. .... 31	Holden, J. T. .... 25	Holler, J. T. .... 25	Standard Mill Supply Co. .... 38	
Babcock & Wilcox Co. .... 15	Cortright Metal Roofing Co. .... 35	Holmes, E. & B., Machinery Co. .... 29	Holmes, E. & B., Machinery Co. .... 29	Standard Oil Co. .... 35	
Babcock, H. H., Co. .... 8	Cotton States Belting & Supply Co. .... 11	Hoopes & Townsend. .... 22	Hood, J. C., & Co. .... 25	Standard Paint Co. .... 35	
Baeder, Adamson & Co. .... 34	Covert Mfg. Co. .... 28	Hooven, Owens & Rentschler Co. .... 16	Howard-Harrison Iron Co. .... 9	Standard Tool Co. .... 50	
Bailey-Lebby Co. .... 20	Cox & Sons Co. .... 13	Hough, W. H., Mfg. Co. .... 25	Humphreys Mfg. Co., The. .... 45	Stanley Electric Mfg. Co. .... 48	
Bailey, John T., & Co. .... 24	Cronk Hanger Co. .... 4	Hudson Bros. .... 29	Hutton Engineering Co. .... 6	Starr, B. F., & Co. .... 46	
Baily Mfg. Co. .... 49	Crosby Steam Gage & Valve Co. .... 19	Hutton Engineering Co. .... 6	Huston & Gray. .... 49		
Baird, U., Machinery Co. .... 12	Cruickshank, D. B. .... 27	I	Steel Rail Supply Co. .... 28		
Baldwin Locomotive Works. .... 13	Culver Mfg. Co. .... 19	Illinois Central Railroad. .... 43	Sterling Emery Wheel Mfg. Co. .... 41		
Ball Engine Co. .... 9	Curtis & Marble Machine Co. .... 37	India Alkali Works. .... 38	Stevens, H., Sons Co. .... 50		
Baltimore, Chesapeake & Richmond Steamboat Co. .... 43	Cutler Mfg. Co. .... 10	Ingersoll-Sergeant Drill Co. .... 24	National Automatic Knitter Co. .... 36		
Baltimore Engraving Co. .... 42	Cypress Lumber Co. .... *	International Corres. Schools. .... 6	National Pipe Bending Co. .... 17		
Baltimore Storage & Light, Co. .... 43	D	J	National Roofing & Supply Co. .... 35		
Barber Asphalt Paving Co. .... 25	Dallett & Co. .... 28	Jamieson Fire-Resisting Paint Co. .... 2	New Atlantic Hotel. .... 42		
Barnes Mfg. Co. .... 44	Damascus Bronze Co. .... 13	Jeffrey Mfg. Co. .... 40	N. J. Car Spring & Rubber Co. .... 10		
Barnes, W. F. & John, Co. .... 8	Davis & Egan Mch. Tool Co. .... 27	Jenkins Bros. .... 50	Newburg Ice Mch. & Engine Co. .... 15		
Barnett, G. & H., Co. .... 50	Davis Coal & Coke Co. .... 8	Jewell Belting Co. .... 11	Newport News Shipbuilding & Dry Dock Co. .... 4		
Bates, James, Sons. .... 33	Davis-Farrar Co. .... 44	Johns, H. W., Mfg. Co. .... 25	News Process Rawhide Co. .... 10		
Battle Creek Steam Pump Co. .... 44	Davis Foundry and Mch. Works. .... 45	Johnson. .... 26	New York Coupling & Supply Co. .... 10		
Bay Line. .... 43	Davis, Kelly & Co. .... 28	Johnson Tool Co. .... 9	New York Equipment Co. .... 28		
Beach, H. L. .... 29	Dean Bros. Steam Pump Works. .... 44	K	Niagara Stamping & Tool Co. .... 33		
Beckley, A. J., & Co. .... 41	Defiance Machine Works. .... 30	Jamieson Fire-Resisting Paint Co. .... 2	Nicholson File Co. .... *		
Benjamin, O. P., Mfg. Co. .... 45	De Kalb, Courtney. .... 6	Jeffrey Mfg. Co. .... 40	Noite Brass Co. .... 8		
Berryman, James. .... 9	De Loach Mill Mfg. Co. .... 31	Jenkins Bros. .... 50	Nordyke & Marmon Co. .... 10		
Bertsch & Co. .... 33	De Marce, A. .... 26	Jewell Belting Co. .... 11	Norfolk & Western R. R. .... 43		
Besly, Chas. H., & Co. .... 50	Deming Co. .... 44	Johns, H. W., Mfg. Co. .... 25	North American Metaline Co. .... 9		
Bethlehem Iron Co. .... 34	Dempwolf, C. H., & Co. .... 21	Jewell Belting Co. .... 11	Norton Emery Wheel Co. .... 50		
Big Four Route. .... 43	Detroit & Cleveland Stm. Nav. Co. .... 43	Johnson. .... 26	Nye & Tredick. .... 38		
Big Union Mining Co. .... 339	Detroit Mill Supply Co. .... 32	Johnson Tool Co. .... 9	O		
Biltmore Estate. .... 28	Dietz, Schumacher & Boye. .... 12	K	Ober Lathe Co. .... 29		
Bing, J. Howard. .... 19	Disston, Henry, & Sons. .... 31	Kansas City, Pittsburg & Gulf R. R. .... 43	Old Dominion Line. .... 43		
Bird, Wm. M., & Co. .... 6	Dixon, Jos., Crucible Co. .... 50	Keeler, E., Co. .... 15	Otto Gas Engine Works. .... 19		
Birmingham Boiler Works. .... 9	Dopp, H. Wm., & Son. .... 24	Keidel, Henry, & Co. .... 42	P		
Black Mfg. Co. .... 49	Dow Wire Works Co. .... 34	Keiley, James A. .... 6	Pancoast, Henry B., & Co. .... 46		
Bliss Co., E. W. .... 34	Draper Machine Tool Co. .... 12	Kelly, O. S., Co., The. .... 50	Pancoast Ventilator Co. .... 35		
Block-Pollak Iron Co. .... 28	Dufur & Co. .... 34	Kilbourne & Jacobs Mfg. Co. .... 50	Patitz, A. M. .... *		
Boomer & Boschart Press Co. .... 25	Dunbar, R., & Son. .... 21	Kimball, Lincoln & Co. .... 38	Paxson, J. W., & Co. .... 41		
Boss Knitting Machine Works. .... 38	Dunning, W. D. .... 25	Knowles Loom Works. .... 10, 37	Peacock, George. .... 41		
Boston Belting Co. .... 10	E	Knox, Henry E., Jr. .... 6	Penberthy Injector Co. .... 50		
Bowes, F. K. .... 27	Easton & Burnham Machine Co. .... 37	Kokomo Telep'n & Elec. Mfg. Co. .... 49	Penn Mfg. Co. .... 42		
Boyd, Jones & Co. .... 11	Eccles, S., Jr. .... 28	L	Perkins Mfg. Co. .... 28		
Bradford Mill Co. .... 12	Eco Magneto Clock Co. .... 25	Lambert Gas & Gasoline Eng. Co. .... 19	Pettee Machine Works. .... 37		
Bradley Pulverizer Co. .... 20	Eisenbrandt Cycle Co. .... 42	Lane Manufacturing Co. .... 29	Philadelphia Bourse. .... 9		
Bradstreet Company. .... 42	Emerson Co. .... 29	Lang, S. Logan. .... 26	Philadelphia Enq. Works, Ltd. .... 16		
Branson Machine Co. .... 36	Empire Glass & Decoration Co. .... 35	Latta, E. R. .... 26	Phila. Machine Screw Works. .... *		
Bridgeport Chain Co. .... 32	Empire Paint & Roofing Co. .... 35	Leffel, James, & Co. .... 45	Pike, Wm. .... 41		
Brooks, T. H., & Co. .... 35	English Supply & Engine Co. .... 38	Leisering Mfg. Co. .... 18	Porter, H. K., & Co. .... 13		
Broomell, Schmidt & Co. .... 16	Epping-Carpenter Co. .... 32	Leonard, Foley & Co. .... 6	Poulterer & Co. .... 28		
Brown, A. & F. .... 22	Etting, Edward J. .... 27	Lewis, H. F., & Co., Ltd. .... 25	Powhatan Clay Mfg. Co. .... 32		
Brown Cotton Gin Co. .... 39	Eureka Fire Hose Co. .... 10	Lidgerwood Manufacturing Co. .... 41	Pratt, N. P., Laboratory. .... 6		
Brown Hoisting & Con. Mch. Co. .... 41	Everson, B. M. .... 27	Link-Belt Engineering Co. .... 40	Price & Co. .... 47		
Brown, Wm. R. .... 26	Exchange Banking & Trust Co. .... 26	F	Price & Heald. .... 28		
Bruce, O. H. .... 26	Falts Rivet & Machine Co. .... 32	Felt & Tarrant Mfg. Co. .... 25	Priestman & Co. .... 19		
Buckeye Iron and Brass Works. .... 40	Farnquhar, A. B., Co., Limited. .... 39	Fitz-Hugh & Co. .... 28	Providence Machine Co. .... 37		
Buffalo Forge Co. .... 50	Fay, J. A., & Egan Co. .... 30	Flickwir, David W. .... 26	Pulsometer Steam Pump Co. .... 44		
Bureau of Freight and Transportation, Charleston, S. C. .... 24	Fay Manilla Roofing Co. .... 34	F. M. S. .... 26	Q		
Burgess, Chas. S. .... 6	Fernandez Oil & Creosote Works. .... 28	Foggs, A. .... 28	Q. & C. Company. .... 13		
Burnham Bros. .... 45	Fidelity & Deposit Co. of Md. .... 25	Foote Gas Engine Co. .... 19	Queen City Printing Ink Co. .... 47		
Burt Labelling Machine Co. .... 47	Fifield Tool Co. .... 12	Ford Gas Engine Co. .... 19	Queen City Supply Co. .... 46		
Bushnell, G. H., Press Co. .... 38	Fitz-Hugh & Co. .... 28	Foster Gas Engine Co. .... 19	R		
Byers, Jno. F., Machine Co. .... 41	Flickwir, David W. .... 26	Fulton, John. .... 6	Rand Drill Co. .... 45		
Cahall Sales Department. .... 24	Fogg, A. .... 28	Freight & Terminal Co. .... 11	Kawson Electric Co. .... 49		
Caldwell, H. W., & Son Co. .... 4	Foos Mfg. Co. .... 20	Freight & Terminal Co. .... 11	Record Printing House. .... 47		
Cameron, A. S., Steam Pump Wks. .... 44	Forbes, W. D., & Co. .... 8	Freight & Terminal Co. .... 11	Reed, F. E., Co. .... 12		
Cameron & Barkley Co. .... 21	Forsyth, S. C., Machine Co. .... 29	Freight & Terminal Co. .... 11	Reliance Gauge Co. .... 18		
Canton Steel Roofing Co. .... 35	Fort Wayne Electric Corporation. .... 49	Freight & Terminal Co. .... 11	Remington Machine Co. .... 40		
Capital Traction Co. .... 26	Fossick Co., T. L. .... 25	French, E. M., & Co. .... 34	Repauno Chemical Co. .... 10		
Card Electric Co. .... 49	French, Saml H., & Co. .... 34	Frick Co. .... 14	Rhoads, J. E., & Sons. .... 11		
Cardwell Machine Co. .... 39	Freese, E. M., & Co. .... *	G	Richmond Loco. & Mch. Wks. .... 13		
Carlin's, Thomas, Sons. .... 27	French, Saml H., & Co. .... 34	Main Belting Co. .... 11	Riter & Conley. .... 6		
Carroll, George. .... 47	Frick Co. .... 14	Makepeace, C. R., & Co. .... 6	Roberts Mfg. Co. .... 40		
Caroline Iron Works. .... 21		Forbes, W. D., & Co. .... 8	Robertson, Jas., Mfg. Co. .... 21		
		Forbes, W. D., & Co. .... 8	Robins, A. K., & Co. .... 9		
		Forbes, W. D., & Co. .... 8	Robinson, J. M., & Co. .... 33		
		Forbes, W. D., & Co. .... 8	Robinson, Wm. C., & Son. .... 39		

**SURETY BONDS.****Fidelity & Deposit Company of Maryland**

Home Office, Cor. Charles and Lexington Streets.

BALTIMORE, MD.

Total Cash Resources Over - - - \$2,000,000.

Becomes SURETY ON BONDS for Contractors, and for all occupying Positions of TRUST. ACCEPTED AS SOLE SURETY by the United States Government and all States.

HERMAN E. BOSLER,  
Secretary and Treasurer.EDWIN WARFIELD,  
President.**PROPOSALS.**

BIDS will be received for the erection of a Courthouse at Hawkinsville, Ga., up to 12 o'clock June 2d, 1897. Plans and specifications are now on file in Hawkinsville, also at the office of Andrew J. Bryan & Co., Architects, third floor Equitable Building, Atlanta, Ga. For further information write the Architects, or J. T. HOLDER, Clerk of the Board of County Commissioners, Hawkinsville, Ga. A certified check for \$200 must accompany each bid. Rights reserved to reject any or all bids.

TREASURY DEPARTMENT, Office Supervising Architect, Washington, D. C., May 27, 1897. Sealed proposals will be received at this office until 2 o'clock P. M. on the 24th day of June, 1897, and opened immediately thereafter, for all the labor and materials required for the plumbing and gas piping for the U. S. Post-office, Courthouse, etc., building at Milwaukee, Wisconsin, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Milwaukee, Wis. Each bid must be accompanied by a certified check for a sum not less than two per cent. of the amount of the proposal. The right is reserved to reject any or all bids or to waive any defect or informality in any bid should it be deemed in the interest of the Government to do so. All bids received after the time stated will be returned to the bidders. WM. MARTIN AIKEN, Supervising Architect.

D. A. GARNER,  
404 Louisiana Ave., Washington, D. C.  
Builders and General Contractors.  
Correspondence Solicited.

WM. A. CHAPMAN & CO.  
**Mill Builders**  
Main Office:  
PROVIDENCE, R. I.

CHAS. McFADDEN, Jr.,  
Successors to  
CHAS. McFADDEN & SONS,

Railroad  
Contractors,  
722 Arch Street, PHILADELPHIA, PA.

**PITTCRDING**  
TOOL STEEL COMPANY.  
**PITTSBURG**  
Make Special Steel for Dies, Punches,  
Shear Blades, Drills and Chisels.  
WRITE FOR PRICES  
512 Smithfield Street, PITTSBURG, PA.

**THE BROUGHTON**  
**DRY MIXER**,  
for Plaster, Cement, Paint, &c.  
W. D. DUNNING,  
14 Water St., SYRACUSE, N. Y.

**THE BOOMER & BOSCHERT**  
KNUCKLE JOINT  
**PRESS**  
FOR BALING  
Cloth, Paper, Yarn, &c.  
Or for any other purpose requiring great pressure.  
BOOMER & BOSCHERT PRESS CO.  
880 W. WATER ST., SYRACUSE, N. Y.

**CYPRESS WATER TANKS**  
Best in the World. Send for Catalogue.  
Write us for Delivered Prices. H. F. Lewis & Co. Ltd.  
NEW ORLEANS, La. 316 Baronne St.

# The Barber Asphalt Paving Co.

GENUINE

## Trinidad Pitch Lake Asphalt PAVEMENTS.



Nearly  
50 Per Cent  
of which  
was laid  
by this  
Company.

It Enhances the Value of Property More Than Any Other Pavement.

General Office: 1 BROADWAY, NEW YORK.

### UNITED STATES AND FOREIGN PATENTS.

Send for our Hand Book of Patents giving complete information how to secure Patents, Trade Marks, Caveats, Copyrights, etc.; cost of same in the United States and Foreign Countries.

**AITON & WOOD.**

Washington Bureau: 907 G St., N. W. Baltimore Bureau: 451 Equitable Bldg.

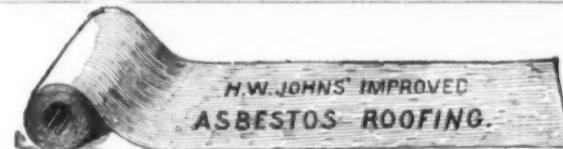
### T. L. FOSSICK COMPANY,

PRODUCERS AND WHOLESALE DEALERS IN

**Darlington = OOLITIC = Limestone.**  
Quarries and Mills at ROCKWOOD, ALA.  
Office at SHEFFIELD, ALA.

SUPERIOR BUILDING STONE.

LARGEST PLANT AND BEST FACILITIES IN THE SOUTH.



FIRE PROOF—Proof against sparks, cinders, burning brands, etc.

STRONG—

A heavy canvas foundation.

LIGHT—Weighs but 95 lbs. per 100 sq. ft. when laid complete.

FLEXIBLE—Contains no coal tar, and retains indefinitely its leather-like pliability and toughness.

EASILY APPLIED—Requires no kettle or other expensive apparatus. Can be laid by any intelligent workman.

ASBESTOS MATERIALS—LIQUID PAINTS—STEAM PIPE AND BOILER COVERINGS, STEAM PACKING, ETC.

ILLUSTRATED DESCRIPTIVE LISTS AND SAMPLES FREE BY MAIL.

H. W. JOHNS' MFG. CO., 100 William St., New York.

CHICAGO

PHILADELPHIA

BOSTON

LONDON

### ECO MAGNETO WATCHMAN'S ELECTRIC CLOCK.

Indorsed by all Insurance Companies. Write for Catalogue.

ECO MAGNETO CLOCK CO.

621 Atlantic Ave., BOSTON, MASS.



### Computing Figures

mentally is probably the hardest kind of toil known. The Comptometer makes it easy, is twice as quick, insures accuracy and relieves all mental and nervous strain. Why don't you get one?

Write for Pamphlet.

FEIT &amp; TARRANT MFG. CO., 62-66 ILLINOIS ST., CHICAGO.

# SPECIAL Advertisements OF GENERAL Interest.

## OPPORTUNITIES FOR INVESTORS.

### ORANGES.

Forty acres of the finest fruit land in Orange county, Florida, unimproved, in the best orange section, eight miles from railroad; location healthy; only \$160 cash. Address O. S. HAYES, Agent, Statham, Ga.

**WANTED.**—A party desirably located in large office building, in lower portion of New York City wishes to represent Manufacturer in the sale of specialty. Excellent facilities for securing new business and pushing same. Address T. H. G., care Mfrs. Record.

**MANUFACTURERS'** attention is called to the large six-story Central Power Station of the Capital Traction Company, covering an entire block in the very centre of the business section of the nation's capital city. Suitable space for light manufacturing plants and other business, with power, heat and electric light, can be obtained at moderate rates. Address

CAPITAL TRACTION COMPANY,  
Washington, D. C.

## CAPITALISTS NOTICE.

Wanted Capital to combine with \$100,000 already up for investment industrially in the South; Cotton Mill preferred. Address F. M. S., care Manufacturers' Record.

### FOR SALE.

## VALUABLE PLANING MILL.

Complete, Valuable Mill Buildings and Lot in Huntsville, Alabama, or will take partner; cause for selling, insufficient capital to run business properly. Apply to

E. R. LATTA,  
HUNTSVILLE, ALA.

## WANTED.

A company, situated in one of the best cities in the South, manufacturing bank furniture, store fixtures, hardwood interior finish, etc., with an established trade, best financial standing, paying large dividends, would like to engage practical man in their line to travel, that can invest \$5000 to \$10,000 in the business. Address

WOODWORKER,  
Care Manufacturers' Record.

## CHARLESTON, S. C.

### For Sale—Fine Residences, Choice Building Lots.

An ideal city for a winter home, full of historic interest, and a climate soft and mild in winter, but not hot enough to be enervating. Cost of living is cheap.

The City of Charleston's water supply is obtained from artesian wells, and it has recently been proven to be a valuable dyspeptic cure when used as drinking water, and a rheumatic cure when bathed in hot

Also Farming Lands near Charleston, S. C., suitable for market gardening, which is a large and profitable industry in the vicinity of Charleston. Correspondence invited.

Exchange Banking & Trust Company,  
CHARLESTON, S. C.

## ELECTRIC POWER TO RENT

In the  
Famous  
Piedmont  
Belt.

Located at Anderson, S. C., on branch lines of both the Southern and S. A. L. Railroads.

Our new Power Plant for the development of 5000 horse-power on Seneca River, and its transmission to Anderson, is nearly completed, when we will be able to supply electric power in and adjacent to Anderson at rates lower than it is possible to make steam power. An abundant supply of cotton of the best grade is grown in Anderson county, and good labor is both cheap and plentiful. The climate is as good as could be found anywhere, and real estate is to be had at reasonable prices.

### AN IDEAL LOCATION FOR COTTON MILLS.

We only have one here now, and there is room for more. There is also plenty of room for other manufacturing enterprises, which could employ this electric power to their advantage. Write us for particulars and rates for power. Address

WM. C. WHITNER,  
General Manager,

ANDERSON WATER, LIGHT & POWER CO.

### FOR SALE AT A BARGAIN.

## Foundry, Boiler & Machine Shop

Suitable for building of engines and railroad work. Have press to press wheels, planer, shapers and lathes from 15 to 44 in. swing up to 26 ft. bed; one and one-half acres of land for plant and big lot of patrons. Business good the year round and lot of tools for all kinds of work. Good reasons for selling—disability and o'd age.

Address A. DE MARCE, Texarkana Tex's.

### FOR SALE.

## WOODWORKING FACTORY.

With one and one-half acres of ground, at Asheville, N. C., on line of railway, thoroughly equipped with fine woodworking machinery of all kinds, in excellent condition; side track from railway. Address

ASHEVILLE WOODWORKING CO.

BILTMORE, N. C.

## WATER POWER

### FOR SALE.

Wateree River falls 51 feet through Wateree boat canal, producing many thousand horse power. Massive granite locks in good repair. Four miles from railroad. Near Camden, S. C. Correspondence and inspection invited.

S. LOGAN LANG,  
CAMDEN, S. C.

## BE WISE

and come South, and thereby be HEALTHY and WEALTHY. For information on Kaolin, Talc, Marble, Corundum and other good investments, write

F. R. HEWITT, Hewitt, N. C.

## B. W. SWEET,

DEALER IN

## Timber & Mineral Lands

Timber Estimator and Mineral Prospector,  
Room 22 Minnis Block, KNOXVILLE, TENN.

### RARE CHANCE.

SAFE and SURE investment. A PARTNER wanted with at least \$5000 cash. Development and industrial operations. References exchanged. Address O. S. HAYES, Industrial Agent S. A. L., Statham, Ga.

**STATHAM, JACKSON COUNTY, GA.**  
"The Ohio Colony" doing well. Land fertile and cheap, producing fruits, grain, grasses, hops, tobacco, etc. Water excellent. Address O. S. HAYES, V. P. for Georgia, Southern States Settlers' Association.

## TEXAS TIMBER LANDS For Sale.

60,000 acres fine pine land in East Texas for sale at a bargain. Address W. C. Teter, Galveston, Texas.

## MACHINE SHOP AND FOUNDRY

### FOR RENT, LEASE OR SALE.

Applications for the rent, lease or purchase of the Piedmont Machine Works, a machine shop and foundry well equipped, and situated on the line of West Virginia Central Ry. at Luke, Md. (opposite Piedmont, W. Va.), will be received by the undersigned. Possession given October 1, 1897. Address O. H. BRUCE, Secretary, Twin-Towns Mfg. Co., Piedmont, W. Va.

## MICA.

I have some desirable Mica Properties for sale at low prices; also an excellent PLACER GOLD MINE.

## S. GALLERT,

RUTHERFORDTON, N. C.

## JOHNSTON.

206 Kiser Law Building, ATLANTA, GA.  
**HARD WOOD.**

**FOR SALE.**—Large and small bodies of Timber Lands, White Oak, Poplar, Cypress, Red Oak, Elm, Ash, Hickory, Pine.

### TIMBER LAND.

21,000 Acres Virgin Forest in best timbered section of West Virginia. Experts measured off several one acre blocks on N., S., E. and W. portions of this tract, and then measured the timber thereon, using Scribner's Lumber and Log Book. Best acre measured 80,037 feet B. M.; thinnest acre, 19,964 feet; general average, 39,271 feet per acre, divided as follows: viz: Hemlock, 19,016 feet; Spruce, 11,358 feet; Cherry, 2,778 feet; Maple, 2,077 feet; Birch, 1,212 feet; Sugar, 948 feet; Ash, 794 feet; Beech, 815 feet, and Cucumber, 270 feet. Total amount of merchantable timber on this tract (approximated)

### 863,962,000 FEET.

The Title is Guaranteed to be Absolutely Perfect

Price and terms very reasonable. Sworn statement of the experts and detailed information sent upon application to THE SOUTHERN REAL ESTATE EXCHANGE, Clarksburg, W. Va.

## THE EQUITABLE BUILDING, NORFOLK, VA.

To be absolutely fire-proof. Offices commodious and comfortable. See prospectus.  
Apply to

W. D. REYNOLDS,  
130 Main Street, Norfolk, Va.

## ....FOR SALE....

## Mineral, Farming

AND

## Timber LANDS.

Can Supply following:

Asbestos Lands.	Ash Timber Lands.
Beauxite Lands.	Black Cypress Poles.
Chrome Iron.	Cement Gravel.
Coal Lands.	Corundum Lands.
Copper Lands.	Cotton Lands.
Cypress Lands.	Cedar Lands.
Fire Clay.	Farming Lands.
Graphite Deposit.	Gold Mines.
Granite Quarry.	Hemlock Timber Lands.
Iron Lands.	Juniper Lands.
Kaolin Mines.	Land for Colonies.
Mica Lands.	Manganese Lands.
Monazite Lands.	Marble Lands.
Nickel Lands.	Orange Groves.
Oyster Lands.	Phosphates, S. C.
Phosphates, Tennessee.	Phosphates, Florida.
Pine Lands.	Pasturage Lands.
Poplar Lands.	Palmetto Lands.
Pyrites Lands.	Rice Lands.
Sugar Lands.	Shooting Lands.
Sea Islands.	Tin Mine.
Talc Deposits.	Truck Farms.
Tie Lands.	Timber Lands.
Turpentine Lands.	Tan Bark Lands.
White Pine Lands.	White Oak Lands.
Walnut Timber.	

## E. WILLIS,

CHARLESTON, S. C.

## Commissioners' Sale

OF

## Valuable Furnace Property.

By virtue of a decree of the Circuit Court of the United States for the Western District of Virginia, entered on the 27th day of February, 1897; also, by virtue of a supplemental decree entered by the said court on the 14th day of April, 1897, in the chancery cause of the Fidelity Insurance Trust & Safe Deposit Company vs. Roanoke Iron Company, the undersigned will sell at public auction, to the highest bidder, on the premises, in the city of Roanoke, Va., on Monday the 28th day of June, 1897, at twelve o'clock, noon, all that certain furnace property, known as the "Roanoke Iron Company" property, lying partly in the city of Roanoke, and partly in the county of Roanoke, Va., consisting of a Blast Furnace, and appurtenances thereto belonging; Rolling Mill, with appurtenances thereto belonging; Laboratory, Office, Houses, and about 53 acres of land. This property consists of a Modern Furnace Plant, with Rolling Mill attached thereto. Output of Furnace while in operation was about 140 tons per day.

TERMS of sale shall be cash sufficient to pay off and discharge the liens prior to the mortgage, fixed by said decrees, amounting to about \$49,000, together with the costs attending the sale, and trustee's compensation of \$750 and trustee's attorney's fee of \$2500 by a former decree provided for, and as to any residue over and above said prior liens, etc., the same shall be payable in 12 months from date of sale; the title to the property to be retained by the court until the purchase-money is paid in full. For further particulars in regard to said property, address David W. Flickwir, at Roanoke, Va., or H. Peyton Gray, Bristol, Tenn.

DAVID W. FLICKWIR,  
H. PEYTON GRAY, Commissioners.

If you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving the character of the machinery needed.

**\$2,000 CASH  
AND BALANCE IN EASY PAYMENTS,  
WILL BUY  
WM. TOWLE & CO.'S  
Saw and  
Planing Mills  
AT METROPOLIS, ILL.**

These mills are situated at the highest point in Metropolis, on the Ohio River, above high-water mark, having a front of about 700 feet on the Ohio River, and more than 1,000 feet on railroad switches, with ample warehouses for dressed lumber, wagon stock, plow handles, etc., and a large stable.

For further particulars apply to

WM. R. BROWN, JR., Metropolis, Ill.

B

SI  
Work  
and Sa

THE

Mac

We ha

Carpent

classes

SOUT

Barg

Send

the Ma

131 N.

Pur

1 Bic

chine,

Double

new.

chines,

WAIS

ENG

TRAIN

in. and

Sheets,

and T

Iron an

sizes are

WHE

Punch

Machin

various

Sales A

Full lin

Brick

14 Hois

11 Stan

42 Stat

9 Grin

We ma

Hoist

Book o

T

One Se

ST

50 to 60

wheel

comple

Same is

out on

Price &

TH

FO

110 V

30,

220

20,

500

# Bargains in Machinery FOR IMMEDIATE DELIVERY

**WANTED.**

To Rent for Three Months,  
**SIX STEAM SHOVELS.**

Work to be done is easy in Dry Muck and Sand. Address

**THE MEADOW LAND IMPROVEMENT CO.**  
MEADOWS, FLA.

**WANTED.**

**Machinery to Manufacture**

We have a thoroughly equipped Machine Shop, Carpenter Shop and Foundry, and can do all classes of Machine Work very reasonable. Try us.

**SOUTHERN FOUNDRY & MACHINE WORKS,**  
FREDERICKSBURG, VA.

**Bargains in New and Second-Hand MACHINERY.**

Send for Catalogue of 1100 lots. Everything the Machinery line.

**FRANK TOOMEY,**  
131 N. Third Street, Philadelphia, Pa.

**FOR SALE.**

**Punches and Shears,**  
1 Bickford Drill Press, 18", used, 1 Boring Machine, 13 1/2", used, 1 Horizontal Punch, new, 1 Double Punch, No. 2, new, 1 Power Shear 12", new. Also a number of Punch and Shearing Machines, Small Rolls, etc. Write for prices. Address

**WAIS & ROOS PUNCH AND SHEAR CO.**  
Cincinnati, Ohio.

**ENGINES, BOILERS AND MACHINERY FOR SALE.**

Corliss, Green and other makes, Automatic, Cut-off Engines, 15 to 300 H. P.; Slide Valve Engines; Upright and Horizontal, 20 to 100 H. P.; 6 New Upright Engines, 4 and 6 H. P.; several second-hand Hoisting Engines. A large stock of Boilers and other machinery.

**D. B. CRUICKSHANK, Agent, Providence, R. I.**

**FOR SALE.**

**ENGINES for Blast Furnaces, Foundries, Converters and Rolling Mills, MILL TRAINS (3-high), 36 in., 30 in., 20 in., 18 in., 12 in. and 6 in. SHEARS for Blooms, Billets, Plates, Sheets, Old Rails and Scrap. CRANES—Yale and Towne Pillar Cranes (10-ton); Jib Cranes, Iron and Wooden. STEAM HAMMERS, various sizes and makes. SQUEEZERS (Rotary). FLY WHEELS and BAND WHEELS, various sizes. Punches, Straighteners, Roll Lathe, Riveter, Machine Shop Tools, etc., etc. LOCOMOTIVES, various gauges, sizes and styles.**

**B. M. EVERSON,**  
301 Smithfield Street, PITTSBURGH, PA.  
Sales Agt. BALDWIN LOCOMOTIVE WORKS, Philadelphia, Pa.

**FOR SALE.**

Full line of Contractors' Machinery consisting of Brick Plant, Hoisting Engines, Standard and Narrow Gauge Locomotives, Stationary and Portable Engines, Grinding and Mixing Pans, etc., etc. We manufacture Ore Grinding Pans, Shears, Hoisting and Table Engines and Screens.

Book of Special Second Hand Machinery Free.

**THOMAS CARLIN'S SONS,**  
ALLEGHENY, PA.

**FOR SALE.**

One Second-Hand Plain Slide Valve Girder Frame

**STATIONARY STEAM ENGINE**

50 to 60 horse power, 12x20-inch cylinder, with fly wheel 8 ft. in diameter by 14-in. face. Engine complete with governor and foundation bolts. Same is in first-class running order. Only taken out on account of having increased capacity. Price \$300 f. o. b. cars Milledgeville, Ga.

**THE MILLEDGEVILLE OIL CO.**  
MILLEDGEVILLE, GA.

**FOR SALE CHEAP.**

Electric Motors in Stock.

110 Volt—1 $\frac{1}{2}$ , 1 $\frac{1}{2}$ , 2, 3, 4, 5, 7 $\frac{1}{2}$ , 10, 15, 20, 25, 30, 35, 40, 50, 75 horse-power.

220 Volt—1 $\frac{1}{2}$ , 1 $\frac{1}{2}$ , 2, 3, 4, 5, 7 $\frac{1}{2}$ , 10, 15, 20, 25, 30, 35, 40, 50, 75 horse-power.

500 Volt—1, 2, 3, 4, 5, 7 $\frac{1}{2}$ , 10, 15, 20, 30, 35, 50, 75 horse power.

All are of standard makes, principally Edison, Thomson-Houston, Westinghouse, Crocker-Wheeler C. & C. and Eddy.

Send for our monthly **Bargain Sheet**, giving complete list, with prices; also on Dynamos, Arc Lamps, Instruments and Supplies.

**CHAS. E. GREGORY CO.**

47-49-51-53 S. Jefferson St. CHICAGO.

**FOR SALE.**

One second hand plain slide valve steam engine, 12x24-inch cylinder with pulley fly wheel 8 feet in diameter by 17-inch face. Engine complete with governor and stop valve, and by maker of good reputation. We will put in order and place f. o. b. cars Philadelphia, for \$300.

**CHAMBERS BROS. CO.**  
PHILADELPHIA, PA.

**FOR SALE.**

**Two Morgan Traveling Cranes,**  
Each ten tons capacity, span 45 feet 6 inches. In first-class condition.

**THE WESTINGHOUSE MACHINE CO**  
PITTSBURGH, PA.

**FOR SALE.**

1 Denn Warner, 2016 spools.  
3 new and 5 second-hand 54-inch Reels.  
Lot of 12 and 15 inch Tin Cotton Cans.  
Steam Plant complete—6-horse steel Boiler, Automatic Atlas Eng ne, Feed Water Heater, Steam and Belt Pumps.

Address **M. GAMBRILL,**  
WILMINGTON, DEL.

Having decided to change from yarns we offer at one-fourth cost

**10,000 SPINDLES,**

with necessary cards, railway heads, drawing, slubbers, speeders and twist-ers, now running, also three 54-inch turbine wheels.

**PIEDMONT MFG. CO.**

PIEDMONT, S. C.

**SECOND-HAND TOOLS.****LATHES.**

1 18x5 Champion Lathe.  
1 18x5 Plain Turret Lathe.  
1 14x5 Putman Lathe.  
1 14x5 Warner & S. Lathe, F. H. Auto. Turret.  
2 14x6 Bradford Mill Co. Lathes.  
1 15x6 Wood Light Lathe.  
1 15x6 Pratt & Whitney Lathe, Taper.  
1 15x6 Porter Lathe.  
1 15x5 Bullard Lathe.  
1 15x8 Lodge & Davis Speed Lathe.  
1 16x8 Flinell Lathe.  
1 16x8 Pratt & Whitney Lathe.  
1 16x8 Porter Lathe.  
1 17x8 Muller Lathe, C. R. & Taper.  
1 17x8 Niles Lathe.  
1 18x6 Lodge & Davis Lathe.  
1 18x7 Pond Lathe.  
1 18x8 Putman Lathe.  
2 18x8 Lodge & Barker Lathes.  
1 18x9 Lodge & Davis Lathe.  
1 18x10 Steeple & McFarian Lathe, P. R.  
1 18x10 Sheppard Lathe.  
1 19x6 Plain Turret Lathe.  
1 20x8 Pond Lathe.  
1 20x12 Gray Lathe.  
1 24x18 Leonard Lathe.  
1 24x16 Sellers Lathe.  
1 26x14 Sellers Lathe.  
1 26x20 Pond Lathe.  
1 32x16 New Haven Lathe.  
1 30x22 Pond Lathe.

**PLANERS.**

1 30x30x7 Sellers Planer.  
1 30x30x7 Chamberlain Planer.  
1 30x30x8 New Haven Planer.  
1 30x30x10 Bement-Miles Planer.  
1 36x30x16 Pond Planer.  
1 36x36x12 Pease Planer.  
1 48x48x16 Sellers Planer.

**DRILLS.**

1 10-inch Bench Drill. 1 Post Drill.  
1 10-inch Barnes Friction Drill.  
1 12-inch Le Blond Sensative Drill.  
1 20-inch Standard Drill, Sliding Head.  
2 21-inch B. G. Aurora Drills.  
3 25-inch Barnes Drills, B. G. & P. F.  
1 24-inch Bickford Drill, Sliding Head.  
1 50 inch Suspension Radial.  
1 5-foot Niles Half Universal Radial Drill.

**MISCELLANEOUS.**

1 Hub and Cone Machine.  
1 1 1/2-inch Pratt & Whitney Cutting-Off Mch.  
8-inch Colton Double Punch and Shears.  
1 15-inch Betts Shaper, Traveling Head.  
1 2 1/2-inch Screw Machine.  
1 20-inch Friction Shaper. 1 Davis Keyseater.  
1 14-inch Hendy Shaper. 1 Brasing Forge.  
1 No. 4 Screw Machine. 1 161 Stiles Press.  
1 Vulcan Belt Strapper. 1 Surface Grinder.  
1 Newton Keyseater.

**NEW TOOLS.**

Engine Lathes, 14 to 60 in. swing.  
Planers, 24 to 54 in. wide.  
Drill Presses, 12 to 42 in. swing.  
Radial Drills, 3, 4, 5 and 6 ft. arms.  
Shapers, 14, 16, 21 and 26 in. stroke.  
Plain Milling Machines (4 sizes).  
Universal Milling Machines (5 sizes).  
1/2, 1, 1 1/2, 2 and 2 1/2 in. Screw Machines.  
14, 16 and 18 in. Monitor Lathes.  
12, 14 and 16 in. Hand Lathes.  
14 in. and 2 in. Automatic Bolt Cutters.  
The Davis & Egan Machine Tool Co.  
Successors to the Lodge & Davis M. T. Co.  
CINCINNATI, O.

**FOR SALE.**

**1 Campbell Cotton Compress.**

**1 Return Tubular Boiler**

60 horse-power, with feed pump.

**2 75 Horse-Power Engines**

with all piping, etc., for connecting.

All in first-class running order.

**Price for Outfit Complete, \$6600 Cash.**

Apply to

**W. H. HEARN, President,**

**or E. M. BROWN, Secretary,**

EATONTON, GA.

**PIPE BARGAINS.**

2, 4, 6, 8, 10, 12 and 20 Inch.

For Water, Gas, Steam, Air and Oil.

Write for particulars and prices to

**F. K. BOWES,**

204 Dearborn Street, CHICAGO, ILL.

**SITUATIONS WANTED.**

Advertisements under this head are inserted free of charge for readers of the MANUFACTURERS' RECORD. Advertisements must not exceed five lines—about thirty words—and four insertions will be given without charge.

**SITUATION** wanted as manager or assistant of manufacturing plant by experienced, energetic and competent man; special experience in organizing shop methods, sales and office work; exceptional references. Address H. F., care of Manufacturers' Record. j25

**SITUATION** wanted by a thorough double-entry bookkeeper, with twenty years' of practical experience; quick and accurate at figures; first-class references; willing to go out of town. S. N. M., care Mfrs. Record. j25

**POSITION** wanted by an engineer of fifteen years' experience, handling steam, electric and ice machinery; best of reference. Address O. J. DIMKELBERG, Wayne Hotel, Detroit, Mich. j25

**WANTED**—A practical and experienced oil mill superintendent and machinist who fully understands the business and knows how to manage hands. Address THE MILLEDGEVILLE OIL CO., Milledgeville, Ga. j25

**WANTED**—A man who thoroughly understands the making of soft steel castings. Address Box 233, Knoxville, Tenn. j18

**FOREMAN** of a razor manufacturing establishment desires to change location; twenty-one years' experience; references. Address RAZOR MAKER, care Manufacturers' Record. j18

**WANTED**—Engagement with a building firm or manufacturer of builders' woodwork as superintendent of works or of manufacture; accustomed to estimate and to take full charge; thoroughly conversant with both branches of the business, and experienced as a practical draughtsman. Address SUPERINTENDENT A, 1119 Tremont Building, Boston, Mass. j18

**WANTED**—Position as traveling salesman for some reliable firm; will accept any territory; have had experience, and can furnish best of references. Address W. A. CROOKS, Box 84, Barnesville, Ga. j18

**WANTED**—A position as Superintendent of a spoke factory; have had thirty years experience, and can carry with me a good trade and give the highest of reference. Address W. R. CHURCH, Coatingswood, N. J. j11

**A YOUNG** man, experienced proofreader and competent compositor, thoroughly honest and steady, wants position; references. Address M. C., care Manufacturers' Record. j11

**WANTED**—Position by young man twenty-two years of age as bookkeeper for, or manager of an oil mill; can furnish best of references. Address C. E., care Mfrs. Record. j11

**WANTED**—A Philadelphia agency for a reliable manufacturer; best of references given for ability and character. Address C. McKARABER, 1200 Arch St., Philadelphia, Pa. j11

**WANTED**—Position in the South as engineer by young man, age twenty-six, an American with eight years experience as machinist and engineer; references given. Address G. P. CAVALLIER, 247 Academy Ave., Providence, R. I. j11

**GOOD** oil mill superintendent and machinist wants position; good reference. Address A. J. LARKIN, 9 Williams St., Atlanta, Ga. j11

**AYER-OUT** or foreman, a strictly reliable and temperate mechanic wishes position in Eastern or Southern boiler shop with chance of advancement. Address LOCKER 437, N. W. Cor. Broad and Federal Sts., Philadelphia, Pa. j4

**WANTED**—A man thoroughly acquainted with cotton mill machinery would like to repair to cotton mills; best references. Address CHARLOTTE, care Mfrs. Record. j4

**ELECTRICAL** and mechanical engineer wants position as superintendent of central electric light station; ten years' experience; have installed some of the best and largest electric light stations in the country; cities contemplating building plants or operating same should write me. Address E. B., Box 112, Scotland, Pa. j4

**COMPETENT** draftsman and engineer wants responsible position in architectural iron and bridge works; modern building construction a specialty; experienced in soliciting work. Address R. V., 324 North Charles Street, Baltimore, Md. j4

**WANTED**—Situation as engineer of Shay locomotive; can repair any Shay locomotive. Address W. V. ELLIOTT, 316 West High Street, Lima, Ohio. j4

**Constructing Engineer**

Desires engagement to superintend building and equipping mills, steam or water power. Cotton mills a specialty. Highest references. Long experience. Address C. M., care Mfrs. Record.

**Wanted—An Idea** Who can think of some simple thing to patent? Protect your ideas; they may bring you wealth. Write JOHN WEDDERBURN & CO., Patent Attorneys, Washington, D. C., for their \$1,000 prize offer and new list of one thousand inventions wanted.

**MANN & CO.**

PATENT ATTORNEYS,

Equitable Building, BALTIMORE, MD.

XUM

**SECOND-HAND RAILS.**

If you have any old rails—either in good condition to relay, or if only fit to be used as scrap—advise us; we buy both kinds.

**ROBINSON & ORR,**  
419 Wood Street, PITTSBURG, PA.

**RELAYING RAILS.****FOR SALE.****RAILS and ROLLING STOCK**

Steel Relaying Rails with Splices  
5000 tons 63 lbs. at St. Louis, Chicago and Toledo.  
5000 tons 62 lbs. at Kansas City.  
1500 tons 60 lbs. in Alab. mts.  
500 tons 60 lbs. at Cincinnati.  
2000 tons 56 lbs. at Atlanta and Montgomery.  
150 tons 30 lbs. at Augusta, Ga.  
Lot of narrow gauge engines, flat and box cars, at Galveston, Texas. Call or write.

**BLOCK-POLLAIR IRON CO.**  
CINCINNATI, OHIO, or CHICAGO, ILL.

We are always in the market to buy relaying rails and scrap iron of all kinds for cash.

**RELAYING RAILS****FOR SALE.****About 400 tons 30-lb. Iron T Rails.**

**THE TREDEGAR COMPANY,**  
RICHMOND, VA.

**FOR SALE.**

85 tons of 25-lb. TEE RAILS, 200 tons of 30s, 48 tons of 45s and 300 tons of 50s, with Fish Plates and Spikes; cheap; also 2-ft. and 3-ft. Gauge Locomotives and Cars. Write for particulars.

**A. FOGG,**  
308 Walnut Street, PHILADELPHIA, PA.

**RAILS and EQUIPMENT.**

600 tons 45-lb. STEEL T RELAYING RAILS with angle bars.  
One Baldwin 16x24 MOGUL LOCOMOTIVE.  
One Baldwin 14x22 4-WHEEL " "  
One 50-ft. and one 45-ft. PASSENGER COACH, Atlanta inspection. For sale by SOUTHERN IRON & EQUIPMENT CO., Atlanta, Ga.

**RAILROAD EQUIPMENT for Sale**

Relaying Rail and Splices, Locomotives, Coaches and Freight Cars.

**HICKMAN, WILLIAMS & CO.**

LOUISVILLE, KY.

**LOCOMOTIVES FOR SALE.**

Owing to the change of the motive power of the LAKE STREET ELEVATED RAILWAY from steam to electricity, we offer for sale all the Locomotives, simple and compound, standard gauge, owned by the line. None of them have had three years' and many of them less than two years' service. The cost now to build these engines would be \$5000. They are offered at greatly reduced prices. Two pairs coupled drivers, 44-in. diameter; four-wheel swing truck, wrought center steel tired wheels, cylinders, simple engines 13-in. x 18-in.; compound engines 13-in. x 18-in. and 22-in. x 18-in.; total weight about 56,500 lbs.; weight on drivers about 40,000 lbs.; fire-box 58 in. by 42½ in.; fuel, hard or soft coal, coke or wood may be burned; two injectors. Eames vacuum brakes for driving wheels, tender and train; steam heater connections. For full description and price write.

**FITZ-HUGH & COMPANY,**  
1634 Monadnock Building, CHICAGO, ILL.

Either for Cash

**SPECIAL SALE**

Or on Easy Terms.

Excellent Lot of

**HEAVY PASSENGER and FREIGHT LOCOMOTIVES**

and First-Class

**PASSENGER, COMBINATION and FREIGHT CARS**

Selected by our own experts from amongst some of the finest lots of Second-hand Equipment that have ever been offered by any of the Leading Trunk Lines of this country. The larger part of the Passenger Cars are Equipped with Four and Six-Wheeled Trucks, Westinghouse Air Brakes, Janney and Miller Couplers, Plush Seats, Spear Heaters, Bronze Trimmings and all modern Improvements. For Specifications, Photographs, Prices and Terms address

**NEW YORK EQUIPMENT CO., 80 Broadway, N.Y.**

**FOR SALE—Compound and Simple Locomotives, OF SOUTH SIDE ELEVATED RAILWAY COMPANY****FIRST-CLASS CONDITION.**

Baldwin Locomotive Works builders. Standard gauge. Fuel—hard or soft coal, coke or wood. Weight in working order about 56,000 pounds. On drivers, about 40,000 pounds. Cylinders, single expansion, 13x16 in. stroke—compound, 9 in. and 15x16 in. stroke. Driving Wheels, 42 in. diameter, steel tire. Driving Wheel Base, 5 feet. Tank Capacity, 750 gallons. Westinghouse Automatic Air Brakes.

Subject to any inspection desired. Built in 1893. Offered at greatly reduced prices. Road being equipped with electricity.

For sale exclusively by

**FITZ-HUGH & COMPANY, 1634 Monadnock Building, CHICAGO, ILL.**

**Relaying Rails.**

Second-hand equipment and light new Steel Rails  
L. K. HIRSCH, 549 Rookery Bldg., Chicago.

**Prompt Cash Paid**

For Old Rails, Axles, Car Wheels and heavy Iron and Steel Scrap of all descriptions.

**DALLETT & CO.**

201 Walnut Place, PHILADELPHIA, PA.

DEALERS IN

High-Grade Bar Iron, Railway Supplies, etc.

**RELAYING RAILS, CARS AND LOCOMOTIVES.**

We offer for sale various sizes of relaying iron and steel T rails from 12 pounds to 60 pounds per yard. Also several three-foot gauge and standard gauge locomotives of various sizes and styles. Also three-foot gauge and standard gauge box and flat cars. We have for sale at Norfolk, Va., 1000 tons of first-class relaying 30 lb. steel T rails, together with all the necessary fastenings to lay the same. Write us for prices and the TERMS OF PAYMENT you desire.

**SMITH & KILBY CO., ANNISTON, ALA.**

**SPECIAL NOTICE.**

We have TWENTY good standard Gauge Second-hand Locomotives at our shops; different sizes and types, mostly suitable for logging and branch roads. All are thoroughly overhauled ready for service. Will sell at cut-bargain prices for quick turn. Write us for particulars.

**POULTERER & CO.**  
206 Bullitt Building, PHILADELPHIA, PA.

**STEEL RAILS.****FOR SALE.**

400 tons new 46 lb. Steel Rails, for immediate delivery at New York.

32 tons Relaying 25-lb. Steel Rails and Plates, immediate delivery at Port Royal, S. C.

1000 tons Relaying 56 lb. Steel Rails and Plates, immediate delivery at New York.

**NEW STEEL RAILS, all weights.****CASH OR INSTALMENT PLAN.**

Several Standard Gauge Dummy Locomotives, Suitable for Logging and Suburban Railways.

**STEEL RAIL SUPPLY CO.**

Successors to HUMPHREYS & SAYCE,  
100 Broadway, NEW YORK.

**YELLOW PINE DOORS, SASH and BLINDS,**

CARLOAD LOTS.

Special Delivered Prices to Dealers.

**PERKINS MANUFACTURING COMPANY,**

AUGUSTA, GA.

If you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving the character of the machinery needed.

**FOR SALE—Compound and Simple Locomotives,**

OF SOUTH SIDE ELEVATED RAILWAY COMPANY

**FIRST-CLASS CONDITION.**

Baldwin Locomotive Works builders. Standard gauge. Fuel—hard or soft coal, coke or wood. Weight in working order about 56,000 pounds. On drivers, about 40,000 pounds. Cylinders, single expansion, 13x16 in. stroke—compound, 9 in. and 15x16 in. stroke. Driving Wheels, 42 in. diameter, steel tire. Driving Wheel Base, 5 feet. Tank Capacity, 750 gallons. Westinghouse Automatic Air Brakes.

Subject to any inspection desired. Built in 1893. Offered at greatly reduced prices. Road being equipped with electricity.

For sale exclusively by

**FITZ-HUGH & COMPANY, 1634 Monadnock Building, CHICAGO, ILL.**

**12 Shay Geared Lima Locomotives****FOR SALE.**

Weight from 14 up to 31 tons, standard and narrow gauge.

Write for Catalogue and particulars.

**M. MITSHKUN & CO.**

Wright St. near Meldrum Ave., Detroit, Mich.

**For Sale Cheap.****8 36-in. Gauge Locomotives.****48 36-in. " Freight Cars.****3 36-in. " Passenger Coaches.**

**DAVIS, KELLY & CO., Louisville, Ky.**

**BIG BARGAIN.****NARROW GAUGE LOCOMOTIVE.**

Weight, eight tons; cylinder, 7 in. x 12 in.; saddle tank; 4 drivers 24 in. Price, \$850. Good as new. Just out of shop.

**HASKINS WILLIAMS & CO.**

BIRMINGHAM, ALA.

**FOR SALE.****NARROW GAUGE EQUIPMENT.**

1 Baldwin locomotive, 1 passenger coach, 1 combination baggage and passenger coach, 1 box car, 2 flat cars, 5 miles of light steel relaying rails from 16 to 30 pounds. Also 2 winter street cars and 3 summer street cars all in good condition. Will sell cheap for cash. Write

**SABEL BROS., JACKSONVILLE, FLA.**

**FOR SALE.**

One 36-ton Baldwin locomotive, 16 in. x 24 in., complete with tender, standard gauge, shifting-engine type; perfect condition and as good as new. Price \$4000.

One locomotive, 16 in. cylinders, 2500-gallon tank, standard gauge, passenger locomotive type. Price \$750.

One small Baldwin locomotive, 7 in. x 12 in., 28 in. drivers, 3 ft. gauge, weight 16,000 pounds, in first rate condition. Price \$1000.

Nineteen low-side gondola cars, 24 ft. long, 40,000 pounds capacity, air and hand brakes, M. C. B. Standard trucks. Price \$90 each.

TERMS CASH. Address

**BILTMORE ESTATE,**

Biltmore, N.C.

**COVERT MFG. CO., West Troy, N. Y.**

All TAGS and LABELS on genuine COVERT GOODS bear the above TRADE MARK.

We have over 600 jobbing houses who act as our agents in buying and selling our goods to the retail trade at manufacturers' prices. This allows us to place the best goods, made in our line, on the market at moderate prices.

Sold by all LEADING JOBBERS at Manufacturers' Prices.

**COVERT MFG. CO.**

WEST TROY, N. Y.

**PRICE & COMPANY**, BALTIMORE, MD. CLARKSBURG, W. VA. Manufacturers of Oak, Etc., For Foreign and Domestic Markets. Agents for Pardoe & Curtin Lumber Co.'s BAND SAWED POPLAR, ASH WALNUT, CHERRY, ETC.

**S. ECCLES, Jr.**

Wholesale Dealer in

**YELLOW PINE LUMBER,**

CYPRESS, Etc.

Manufacturers' Record Building, Baltimore, Md.

**A. I. LYON,**

Room 55, MANUFACTURERS' RECORD BUILDING,

N. W. Cor. Lexington and North Sts.

BALTIMORE, MD.

Mill men with good hardwood lumber to offer for cash are invited to correspond with me.

CABLE "HEALD."

P. O. BOX 302.

**PRICE & HEALD.**

Wholesale Dealers and Manufacturers

**HARDWOODS & POPLAR**

Sawed on the Log, for Domestic or Foreign Trade.

Yards, Lecust Point.

Branches: Grafton, W. Va., Bristol Tenn.

BALTIMORE, MD.

**VENEERS AND HARDWOOD LUMBER.**

Importers of

Mahogany and Foreign Woods,

Manufacturers of

DOMESTIC & FOREIGN

Hardwood Lumber and Veneers,

Cigar Box Lumber.

CINCINNATI, O.

EASTERN BRANCH, Corner Sixth and Lewis Streets, E. R., New York

**CREOSOTED****PILES, LUMBER and CROSSTIES**

Treated with Dead Oil of Coal Tar.

PINOLINE WOOD PRESERVATIVE.

Highest Antiseptic Qualities. Insoluble in water.

FOR PRICES WRITE

Fernandina Oil & Creosote Works, Fernandina, Fla.

Circular  
Clapboard  
Planers  
Band and  
Sash, Etc.

Send

S. C.

Established

T

1860

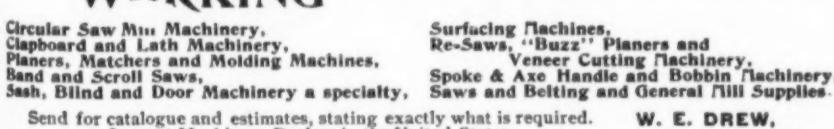
1860

1860

1860

1860

1860



Are you interested  
in Drying

## Lumber?

If so, write us for catalogue.

THE EMERSON CO.

809 Fidelity Building,  
BALTIMORE, MD.

E. & B. HOLMES MACHINERY CO.  
59 Chicago St., BUFFALO, N. Y.  
Woodworking Machinery  
AND MANUFACTURERS OF  
BARREL and STAVE MACHINERY.

FREE. If you will give us your name and address we will mail you a Catalogue and Price-list of one of the largest lines of  
Wood Working Machinery  
in the country.  
CORDESMAN MACHINE CO.  
26 to 36 Butler Street, CINCINNATI, O.

PATENT GROOVER OR DADO HEAD.



For cutting any width groove, from  $\frac{1}{8}$  inch to 2 in. or over. This groover consists of two outside saws, each of which is a groover in itself and as many inside cutters as required. The inside cutters are made 1-16,  $\frac{1}{4}$  &  $\frac{3}{4}$  inch thick so that any width groove measurable in sixteenths may be cut. The outside cutters are made  $\frac{1}{8}$  inch thick. It will cut a perfect groove, either with or across the grain, and will not leave a rough edge as in the case with ordinary groovers.

HUTHER BROS.  
SAW MANUFACTURERS,  
234 Mill Street, ROCHESTER, N. Y.

SKINNER CHUCKS  
Independent and Universal Chucks, Combination Lathe Chucks with patent reversible jaws, Drill Chucks, Planer Chucks and Face Plate Jaws.  
SKINNER CHUCK CO.  
SEND FOR CATALOGUE. NEW BRITAIN, CONN.



For the Best  
MACHINERY  
FOR SHINGLES,  
HEADING and STAVES,  
Veneer Cutters  
and Improved  
GAUGE LATHES  
FOR  
Turning Handles, Etc.  
ADDRESS  
Trevor Mfg. Co.  
SUCCESSORS TO  
TREVOR & CO.  
Lockport, N. Y.

THE FARQUHAR  
SAW MILL

VARIABLE FRICTION  
FEED, Most Accurate  
Set Works Made.

QUICK  
RECEDING  
HEAD BLOCKS.

PORTRABLE, STATIONARY & TRACTION  
Engines and Boilers a specialty. Send for catalogue to  
A. B. FARQUHAR CO., LTD., YORK, PA.



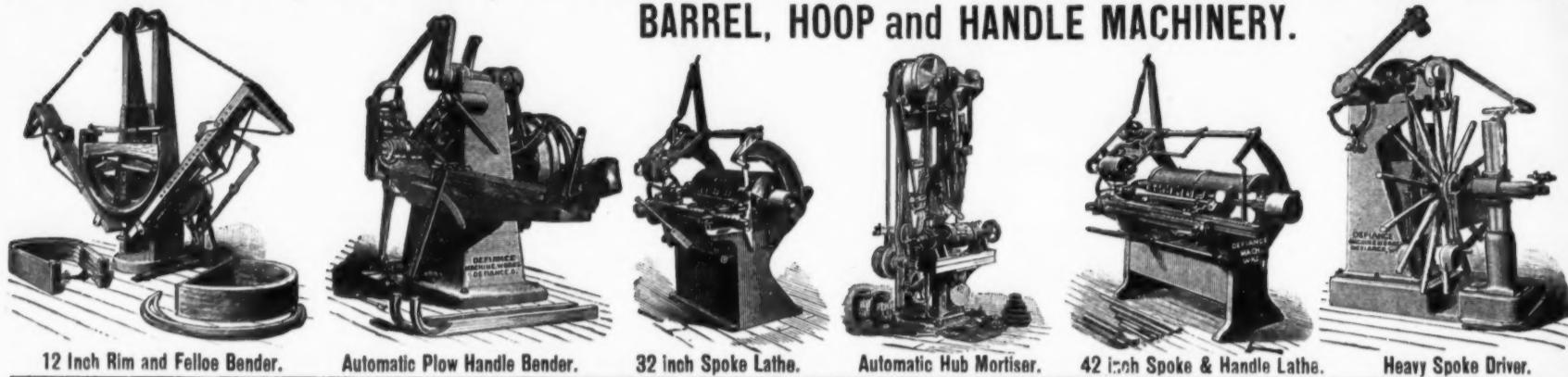
HENCH  
& DROMGOLD'S

SAW MILL AND ENGINES

A wonderful improvement in Friction Feeds and Gig-Back, Back motion of Carriages, times as fast as any other in the market. Friction Clutch Feed, causing all the feed gearing to stand still while backing; great saving in power and wear. Send 4 cents in stamps for large Catalogue and prices. Also Spring Harrows, Hay Rakes, Cultivators, Corn Planers, Shellers, etc. Mention this paper  
HENCH & DROMGOLD, York, Pa.

# DEFIANCE MACHINE WORKS

(ESTABLISHED 1850) INVENTORS AND BUILDERS OF DEFiance, OHIO.  
HUB, SPOKE, WHEEL, BENDING, WAGON AND CARRIAGE MACHINERY  
BARREL, HOOP and HANDLE MACHINERY.



12 Inch Rim and Feloe Bender.

Automatic Plow Handle Bender.

32 Inch Spoke Lathe.

Automatic Hub Mortiser.

42 Inch Spoke &amp; Handle Lathe.

Heavy Spoke Driver.

## ROWLEY & HERMANCO.

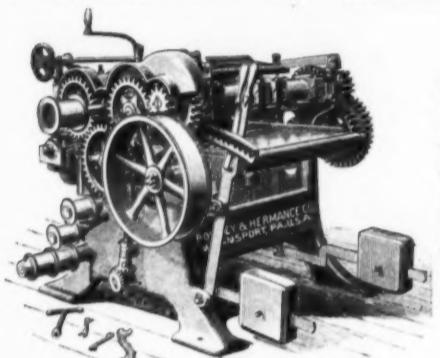
Successors to ROWLEY &amp; HERMANCO,

300 East Church Street, WILLIAMSPORT, PA., U. S. A.

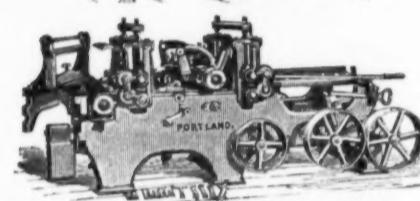
We Manufacture Strictly First-Class

## WOOD WORKING MACHINERY

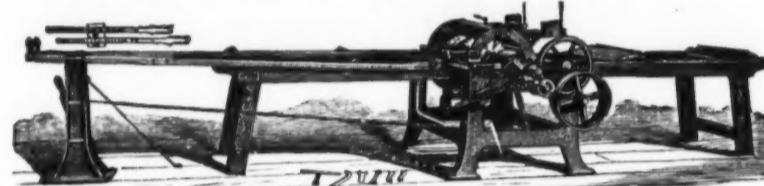
When in the market for machinery, will you kindly send for our 1897 Catalogue and give us an opportunity of quoting you price on your requirements. Our line consists of the very latest improved Labor-Saving Wood-Working Tools for Sash, Door and Blind Factories, Planing Mills, Cabinet and Furniture Factories, etc., etc.



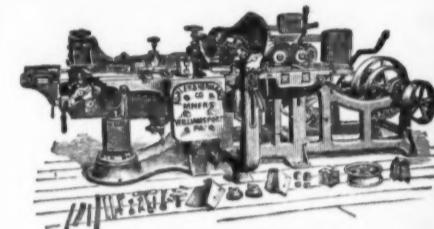
No. 7 Surfacer Broken Roll.



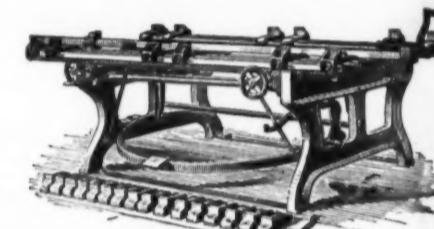
24 in. Portland Double or Single Surfacer and Matcher.



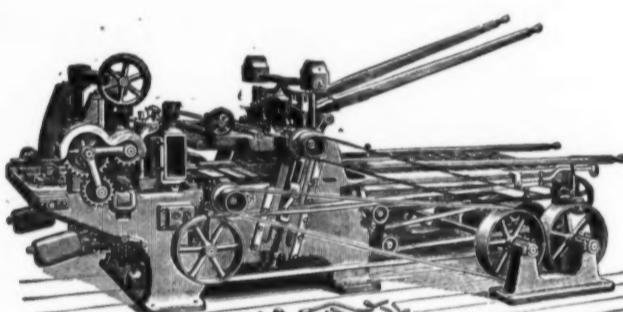
No. 2 New King Power Feed Gang Rip Saw.



Iron Column 12 in., 10 in., and 9 in. Four Sided Moulder.



Improved Door Clamp.



More of these sizers in use in the Southern mills today than all other makes combined.

HEAVY PLANING MILL  
MACHINERY  
A SPECIALTY.

## J. A. FAY & CO.

270-290  
WEST FRONT STREET,  
CINCINNATI, OHIO.

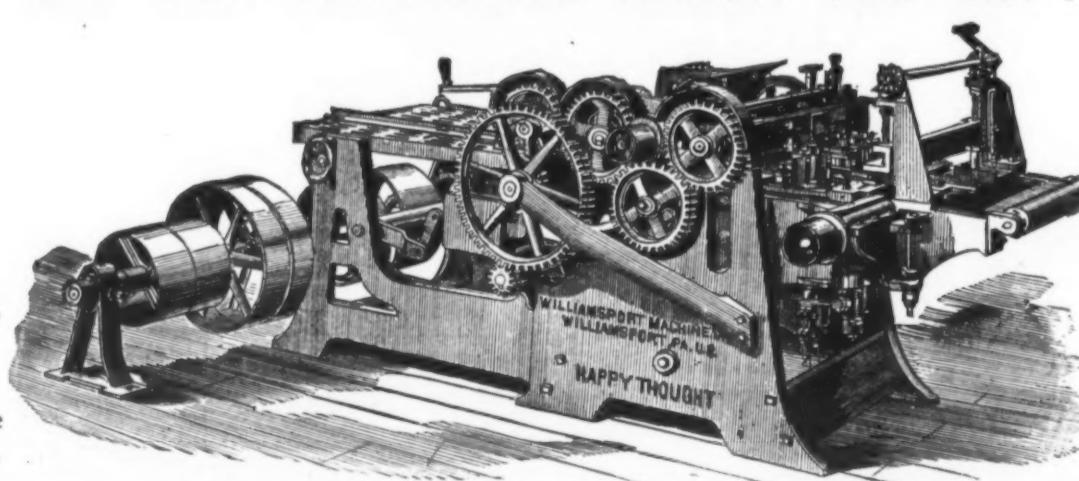
DID OUR CATALOGUE REACH YOU YET?

## PLANER AND Matcher

Does a large  
range of work  
and is low in price.

Write us about it.

We make a Full Line  
of MACHINERY.



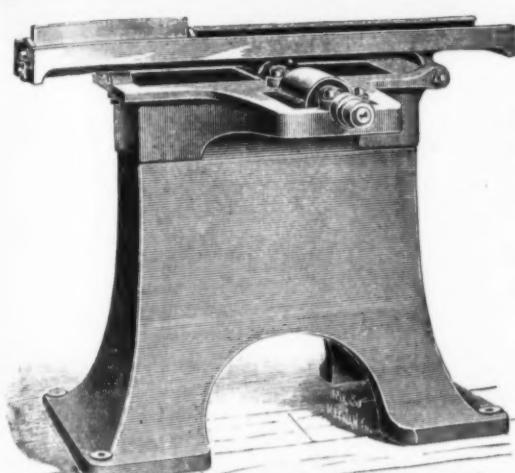
PLANERS AND MATCHERS AND SURFACERS—A FULL LINE.

Others  
Like Our Machinery.  
Why Don't You  
Try It?

Let us refer you to some  
of those big Southern mills  
that have our machines,  
and see what they say  
about them.

Williamsport  
Machine  
Company,  
WILLIAMSPORT,  
PA.

# ROTARY STAVE MATCHER.

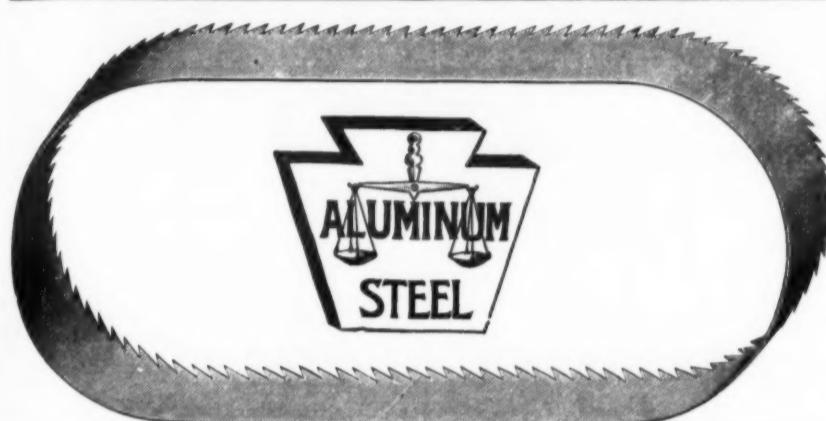


Designed For High Speed Work.  
Will Not Tear Cross Grained Staves.  
Steel Arbor Running in Self-Oiling Bearings.  
Cutter Heads Have Four Knives on Each Side.  
Grooving Knives Easily Adjusted For Grinding.  
Three Slides With Each Machine.

Register Now for  
Catalogue B.

We Make Also:  
Pail and Tub Lathes,  
Stave Sawing Machines,  
General Wood Working Machinery.

BAXTER D. WHITNEY, Winchendon, Mass.



UNEXCELED FOR  
**BAND SAWS.** **TOUGHNESS**  
**ALL WIDTHS.** **EMPER**  
**TENSION**

BRANCH HOUSES:  
Chicago, Ill.  
Louisville, Ky.  
Boston, Mass.  
San Francisco, Cal.

# HENRY DISSTON & SONS,

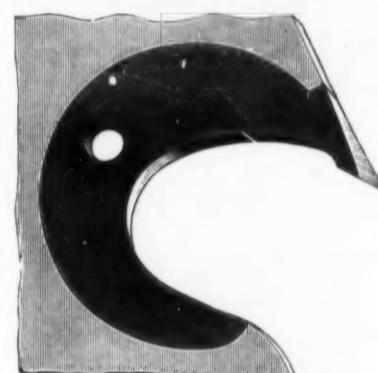
INCORPORATED,  
PHILADELPHIA, PA.

Having had over fifty years' experience in manufacturing saws, we feel justified in saying that our goods are superior to all others, from the fact that we have, by constantly experimenting at great cost, arrived at a state of perfection in machinery, which can only be obtained by years of constant application and watchfulness.

Persons ordering circular saws will save themselves much trouble by exercising care in making out their orders; we furnish blanks to facilitate this, which can be had on application.

Send for Price List and Discount Sheet.

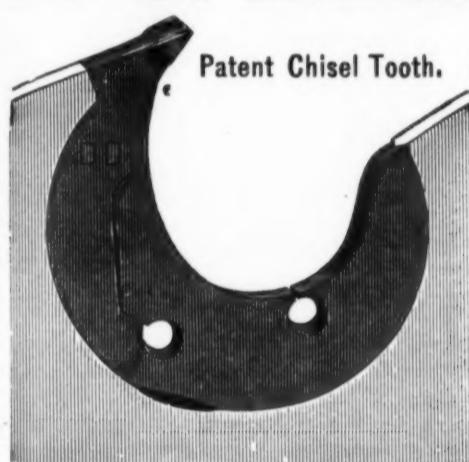
Send for New Edition of Lumberman's Handbook.



Disston's Inserted Chisel-Tooth Saw.

**E. C. ATKINS & CO.,** Indianapolis, Ind.

BRANCH HOUSES { Memphis, Tenn.  
Minneapolis, Minn.  
Chattanooga, Tenn.



MANUFACTURERS OF  
**Circular, Band, Cross-Cut & Hand Saws.**

SILVER STEEL BAND SAWS.

E.C. ATKINS & CO., INDIANAPOLIS, IND.

Atkins'  
Silver Steel  
Band Saws.

TRADE  
SILVER STEEL  
MARK

THE ATKINS BANDS TAKE THE LEAD.

TEMPERED BY NATURAL GAS.

Write for Sawyers' Hand Book Saws and Saw Tools

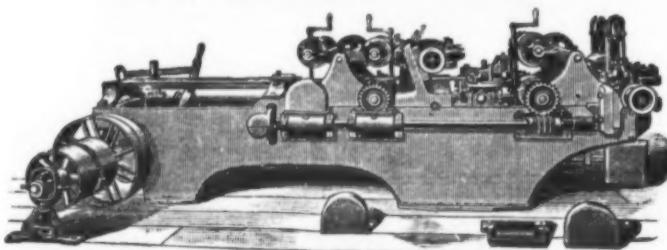


GLEN COVE MACHINE CO., Limited.

MANUFACTURERS OF IMPROVED

**PLANING MILL MACHINERY**

FLOORING, MOULDING, SURFACING,  
SIZING AND TIMBER MACHINES.



SCREW FEED PLANING AND MATCHING MACHINE.

Office, No. 50 BROADWAY New York City.

WORKS, 24 TO 34 CLAY ST., BROOKLYN N.Y.

97

Catalogue free by mentioning the Manufacturers' Record. The DeLoach variable friction feed SAW MILLS, PLANERS, and SHINGLE MACHINES, HAY PRESSES, GRINDING MILLS, CANE MILLS, ENGINES, BOILERS, WATER WHEELS, ELEVATORS, Etc. Immense sales and good results. Why? Because they are THE BEST. Don't fail to call on us at the Tennessee Centennial.

DeLoach MILL MANUFACTURING CO., Atlanta, New York, St. Louis.

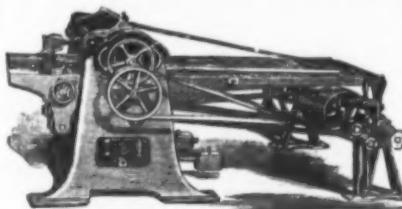
**COODESMAN, MEYER & CO.**

27, 29, 31 Central Avenue, CINCINNATI, OHIO.

FINE GRADES OF LATEST

WOOD  
WORKING  
Machinery

OF EVERY DESCRIPTION.



NO. 2 PLANER, MATCHER AND MOULDER.

For...  
Planing Mills,  
Furniture and  
Chair Factories,  
Carriage, Wagon,  
Agricultural  
Works, etc.  
Write for Circulars and  
Prices.

# Lovers of Yachting

appreciate our boats



BUILDERS OF The Only Naphtha Launch

SEABURY'S WATER TUBE BOILERS AND MARINE ENGINES.

GAS ENGINE & POWER CO., AND CHAS. L. SEABURY & CO., 50 BROADWAY

Send ten cents for handsome illustrated catalogue.

OR AT MORRIS HEIGHTS, NEW YORK CITY.

## No Lead Used in This Metal.

ABSOLUTELY PURE. LISTEN TO ITS RING.

One Price all over the United States and Canada.

The Cheapest for the Consumer, because it is the Highest Grade possible to Produce.

SELLING AGENTS.

MORLEY BROS.,  
East Saginaw, Mich.

THOS. C. BASSHOR & CO.,  
Baltimore, Md.

THE FAIRBANKS CO.,  
New Orleans, La.

PALMER HARDWARE CO.,  
Savannah, Ga.

E. C. ATKINS & CO.,  
Memphis, Tenn.

E. C. ATKINS & CO.,  
Chattanooga, Tenn.

CRANE, CHURCHILL & CO.,  
Omaha, Neb.



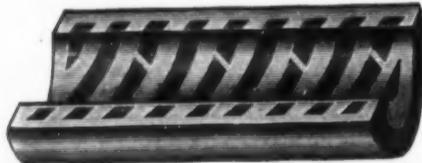
HOO-HOO  
BABBITT METAL.

MORE, JONES & CO., Owners and Sole Makers, St. Louis, Mo.

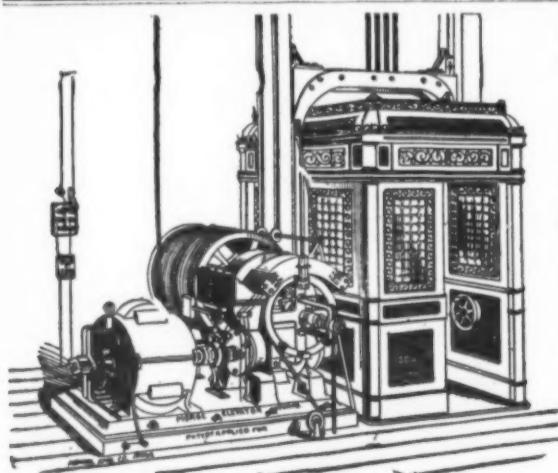
## Graphite and Bronze Bearings

For Machinery of all kinds,

Especially for Friction Clutch and Loose Pulleys,  
Baggage Truck Axle Boxes,  
Mine Car Axle Boxes,  
Tackle Block Bushings,  
Wind Mill Bearings,  
Wheel Governor Bearings for Engines,  
Street Railway Motor Bearings,  
Trolley Wheel Bushings, etc., etc.



The GRAPHITE LUBRICATING CO., Bound Brook, N. J.



Morse, Williams & Co.

ALL KINDS OF

Passenger and Freight

## ELEVATORS

Builders' Exchange, Baltimore.

1105 Frankford Avenue, PHILADELPHIA.

108 Liberty Street, NEW YORK.

19 Pearl Street, BOSTON.

DIVIDENDS 33 1/3 PER CENT.

Your purchasing  
will help you  
largely to make it.

Send for new catalogue and state your requirements.

Dinghys  
Gigs  
and  
Yacht  
Tenders

## CHAINS

and

SPECIALTIES in Great Variety.

Apply to

THE BRIDGEPORT CHAIN COMPANY,  
BRIDGEPORT, CONN.

THE POWHATAN CLAY MFG. CO.

MANUFACTURERS OF

CREAM WHITE  
and other PRESSED BRICKS and  
Fire Bricks, also Drain Tile.

Write for prices. RICHMOND, VA.

### Anti-Friction Metals.

BRASS CASTINGS — GENUINE BABBITT'S METAL

**BISMARCK** TOUGH, CONTAINS NO LEAD

HARD, EXCELLENT. **THISTLE** MEDIUM, GOOD

**SHAMROCK** ALSO FIVE OTHER GRADES.

EPPING STEAM PUMPS

EPPING CARPENTER CO., PITTSBURG, PA.

### GUARANTEED

Best Anti-Friction Metal for all Machinery bearings. For high speed and heavy crushing weight it has no equal. It is used on bearings where no other known metal will stand.

THEO. HIERTZ & SON, Sole Manufacturers, ST. LOUIS, MO.  
30th Street and Park Ave., Manufacturers all grades Babbitt Metals, Solder, Bar Tin, Bar Lead, Lead Car Seals, etc.

DETROIT MILL SUPPLY CO. (Incorporated) Detroit, Mich.

Sole owners and Manufacturers of

ALASKA BABBITT METAL  
and Dealers in MILL SUPPLIES.

Alaska Babbitt Metal—Non-Heating. "It gives perfect satisfaction on our fastest passenger engine." W.T. RUPERT, M.M., Detroit, Lansing & N.R.R.



"PROVIDENCE" Best in the World. **WINDLASSES.** **CAPSTANS**  
BUILT BY THE  
AMERICAN SHIP WINDLASS CO., Providence, R. I.

# CORRUGATED BRASS SHOE NAILS.

Full Weights and Good Goods in Papers or Brass Boxes.  
Have you seen our new BRASS BOX Very convenient.

ROME TACK & NAIL COMPANY,  
ROME, N. Y.

## RANGE MANUFACTURERS' BRAKE, NEW STYLE.

6 Foot Geared Hand and Power  
Range Brakes.



TINNERS'

CAN-MAKERS'

# NIAGARA TOOLS.

PRESSES

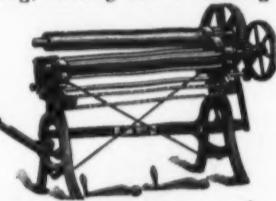
DIES

SHEARS

NIAGARA STAMPING & TOOL CO., Buffalo, N. Y.

## COMBINED PUNCH AND SHEARS

Different styles for Squaring, Slitting and Trimming.  
All sizes. Automatic  
Self-Opening  
Bending Rolls  
(revolutions)  
Also Angle Iron Bending  
Rolls, Squaring  
Shears, etc., machines  
for working Sheet  
Metal.



BERTSCH & CO.  
CAMBRIDGE CITY, IND.

# THE STILES & FLADD PRESS CO.

20 Mill Street, Watertown, N. Y.

Designers and  
Builders of

POWER PRESSES

DROP HAMMERS

DIES AND

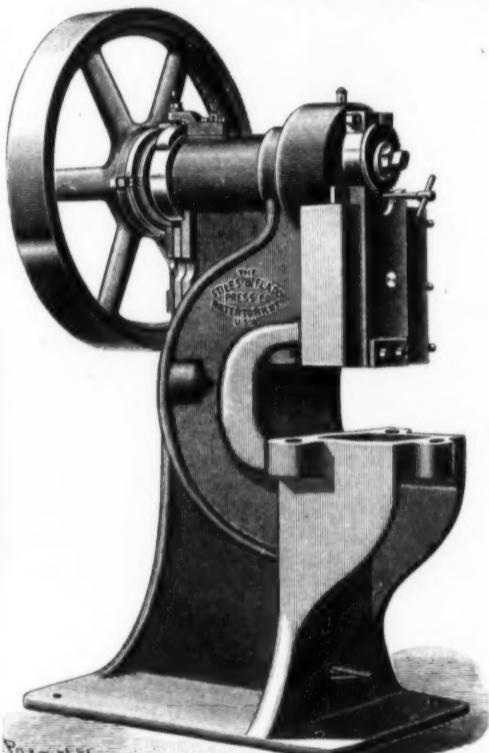
Special Machinery  
for Sheet Metal.



Adjustable  
Incline  
PRESSES.

Punching  
and Forming  
Presses.

Foot and  
Screw  
PRESSES.



No. 3 Punching Press.



No. 19 Adjustable Incline Press.

CINCINNATI ELEVATOR WORKS,  
Manufacturers of  
Hand, Steam, Hydraulic and Electric  
ELEVATORS

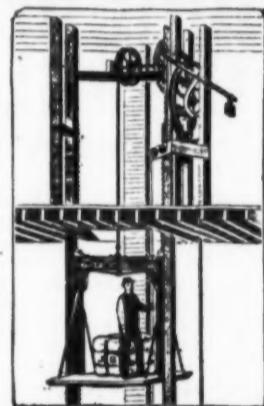
216 West Second St., CINCINNATI, OHIO.

SET AND CAP SCREWS  
CINCINNATI SCREW & TAP CO.  
STANDARD AND SPECIALS.  
CINCINNATI, O. U. S. A.  
NUTS  
FOR ENGINES AND MACHINERY.

BATES' HAND ELEVATORS.

Pat. April 16, 1871. Reissued July 25, 1875.

OVER 10,000 IN USE.



Adapted for Warehouses, Stores, Factories,  
Hotels, Public Institutions and every place where  
merchandise, &c., is transferred from one story  
to another.

JAMES BATES' SONS,  
Successors to JAMES BATES,  
Cor. PRATT AND PRESIDENT STREETS  
BALTIMORE, MD.



# Speare's Weatherproof Cold Water Paint.

Simply a powder that is cheap, and water, that is free, makes a paint  
superior, in many respects, to oil paint. Is also fireproof.

A circular, to be had for the asking, will tell you all about it.

ALDEN SPEARE'S SONS & CO.

NEW YORK. CHICAGO.

Paint Dep't: 369 Atlantic Avenue, BOSTON, MASS.

**STEEL**  
Celebrated Crowl's Patent.  
CORRUGATED IRON  
And 12 other styles.

Eave Trough, Conductor Pipe and Roof Paints.

CHATTANOOGA STEEL ROOFING CO.  
Manufacturers, CHATTANOOGA, TENN.  
**ROOFING**  
WRITE FOR PRICES.

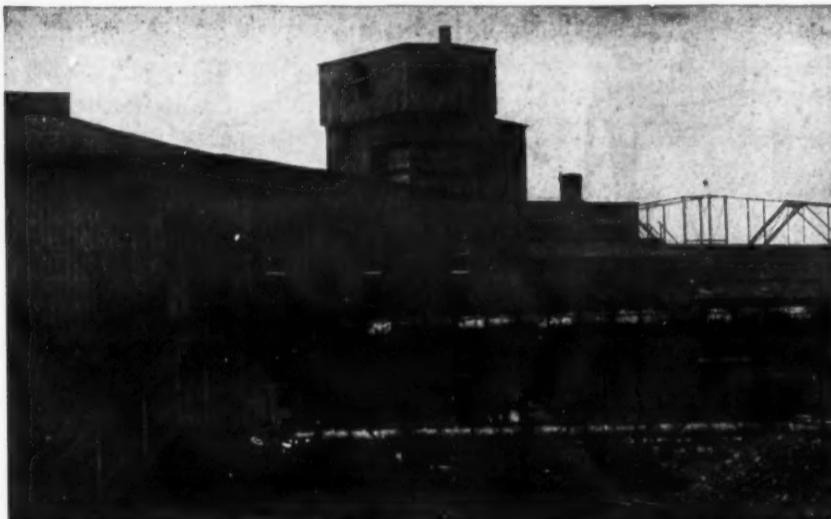


Black Gal. Sheet Iron and Steel,  
Ceiling, Siding, Roofing, etc.

### To be good

must be made from the best of material, thoroughly inspected and approved before shipping. The heads of the different departments in our works are experts in their line and we therefore **guarantee** our product.

THE CINCINNATI CORRUGATING COMPANY.  
Box 377  
PIQUA, O.



Factory of Bowker Fertilizer Co., Elizabethport, N.J.

THESE BUILDINGS ARE COVERED WITH

**NATURAL ASPHALT**

**WARREN'S Ready Roofing.**

On the acid chambers building, part of which shows at the left of the picture, this Roofing has been in use for over TWELVE YEARS under very trying circumstances, having been constantly exposed to sulphuric acid fumes from below.

This Roofing is especially adapted for the South, as it will not dry up and become brittle under exposure to the weather.

In illustration of the remarkable degree to which this Roofing retains its pliability in actual use, we shall be pleased to send anyone interested a small piece of the Roofing which we have cut from the roof of the acid chambers mentioned above, and which, after nearly THIRTEEN YEARS, is still soft and pliable.

Send for samples, circulars and prices to

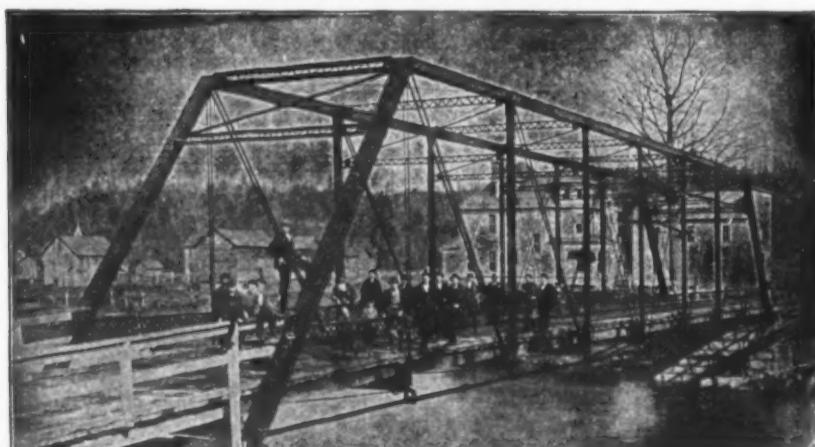
**WARREN CHEMICAL & MANUFACTURING CO.**

Established 1853.  
Incorporated 1858.

82 Fulton Street, NEW YORK CITY.

**"WEST VIRGINIA BRIDGE WORKS"**

(Operated by the Vulcan Road Machine Co.)



Builders of all kinds BRIDGES and STRUCTURAL IRON WORK.  
CHARLES TOWN, W. VA.

**LUDLOW SAYLOR WIRE CO.**

Nos. 114 and 116 South Fourth Street, ST. LOUIS, MO.

**ARTISTIC METAL WORK**

In Brass, Wire and Wrought Iron. Elevator Enclosures and  
Cabs, Bank and Office Railings, Grilles, Fences, etc.



GRILLS  
BANK & ELEVATOR ENCLOSURES  
WIRES & FENCES DOW WIRE WORKS CO. LOUISVILLE, KY.

**WIRE RAILING**

AND  
ORNAMENTAL WIRE WORKS

DUFUR & CO.

311 North Howard Street, BALTIMORE.  
Wire Railing for Cemeteries, Lawns, Gardens, Offices and Balconies; Window Guards, Tree Guards, Wire Cloth, Sieves, Fenders, Cages, Sand and Coal Screens, Iron Bedsteads, Chairs, &c.

**E. W. BLISS CO.**

137 Plymouth St., BROOKLYN, N.Y.

CHICAGO: 96 W. Washington St.

400 page catalogue of our

**PRESSES**

Dies, Shears, Drop Hammers and Special Machinery

FOR WORKING

**sheet metal**

Owners of

The Stiles & Parker Press Co.



Correspondence  
Solicited.

**WILLIAMS & SCHMID,**

MANUFACTURERS OF THE  
Celebrated Green Mountain Sea Green Roofing Slate

Acknowledged to be the MOST DURABLE  
SLATE produced. The BEST and CHEAPEST  
material for covering Houses, Barns, Factories,  
Foundries, Railroad Buildings, etc. Architects  
and builders specify our Slate.

**WILLIAMS & SCHMID, Granville, N.Y.**

**Roofing Slate & Slate Black Boards**

Builders, Contractors and Roofers.

Would like to correspond with you whenever  
you are in need of any ROOFING SLATE or  
SLATE BLACK BOARDS. Don't say SLATE is  
too expensive until you write me and ascertain  
what I will deliver it for f. o. b. at your station.

DAVID MCKENNA, Slatington, Pa.

**THE BEST**  
**UNFADING Roofing Slate** DARK-BLUE

WASHINGTON, FRANKLIN AND NEW BANGOR ALL GENUINE BIG BED MATERIAL

MANUFACTURED SLATE OF ALL KINDS.

BLACKBOARDS, TREADS and RISERS, PLATFORMS, URINALS, &c., &c.

**WASHINGTON SLATE CO., Slatington, Pa.**

**THE BETHLEHEM IRON CO.**

Works and Principal Office—SOUTH BETHLEHEM, PA.

**RAILS.**

**BILLETS.**

**MUCK BARS.**

**FORGINGS** of all description, either Solid or Hollow. Made from Fluid-Compressed, Hydraulic Forged Open Hearth Steel.

**PLATES** for all Purposes.

NEW YORK OFFICE, 100 Broadway.

PHILADELPHIA OFFICE, 421 Chestnut Street.

CHICAGO OFFICE, Marquette Building.



As numerous as the sands on the seashore are  
the users of our

**SAND PAPERS,**

ALL KINDS:

**Flint Paper, Garnet Paper, Emery Paper & Emery Cloth.**

The SUPERIOR QUALITY of our goods is unquestioned. **YOU RUN NO RISK.**

**HAIR FELTING** for Covering Boilers, Steam and Water Pipe, and  
Lining Refrigerators.

**BAEDER, ADAMSON & CO.,** 67 Beekman Street, New York.  
143 Milk Street, Boston.  
182 Lake Street, Chicago.

P

Mar

Pitts

Carnegie

120 P

Estimat

ASE

G

Abs

Emp

TH

GRA

T

for ro

Tar

Paints

ALV

US

We G

Mad

Samp

Trade

PA

316 P

THE

ST

The

ST

Als

XUM

# PITTSBURGH PLATE GLASS CO.

LARGEST PRODUCERS OF PLATE GLASS IN THE WORLD.

Manufacturers of Polished Plate and Silvering Plate of all thicknesses.  
SKYLIGHT AND FLOOR GLASS.

Pittsburg:  
Carnegie Building.

New York:  
49-53 LaFayette Place.

Boston:  
20 Sudbury St.

Chicago:  
442-452 Wabash Ave.

Cincinnati:  
115-117 W. Front St.

St. Louis:  
12th and St. Charles Sts.

Minneapolis:  
124-128 N. 3d St.

Detroit:  
124-128 W. Larned St.

F. A. BISHOP, Manager.  
Designers and Manufacturers of LEADED ART GLASS DECORATIONS.

EMPIRE GLASS AND DECORATION COMPANY,  
120 Peachtree Street, ATLANTA, GA.

BEVELED PLATE, CHIPPED AND MITERED GLASS.  
Estimates and designs furnished on application.

INTERIOR DECORATORS.

ASBESTOS BUILDING AND SHEATHING FELTS.  
GUTTA PERCHA WIRE EDGE ROOFING

Absolutely FIRE, WATER and WIND PROOF. SEND FOR SAMPLES AND PRICES.  
Empire Paint & Roofing Co. 219 North 4th Street, PHILADELPHIA, PA.

THE ARMITAGE MANUFACTURING COMPANY, Richmond, Va.  
GRAVEL, SLAG and COMPOSITION ROOFERS,

MANUFACTURERS OF  
TWO AND THREE-PLY ASPHALT READY ROOFING.  
for roofs of any description, water, acid and fire proof; more durable than metal, easily applied.  
Tarred Felts, Building, Sheathing and Insulating PAPERS, Roofing Pitch, Paving Pitch, Roof Paints and Roof Coating, Black Varnish, Ammonia, etc. Write for Samples, Prices and Catalogues.  
Quality and Workmanship Guaranteed.

THE WORLD'S BEST.  
ALWAYS The Pancoast  
USE ...  
VENTILATOR

We Guarantee It.  
Made in all Sizes from 2 Inches to 7 Feet.  
Samples upon Application. Send for Price List and Trade Discounts. Recommended by leading architects.

PANCOAST VENTILATOR CO.  
Manufacturers,  
316 Philadelphia Bourse, PHILADELPHIA, PA.



COMPLETE VIEW.

THE PHILADELPHIA STEEL ROOFING CO.  
MANUFACTURERS OF  
STEEL ROOFING AND CORRUGATED IRON.  
514, 516 & 518, BEACH ST.  
PHILADELPHIA, PA.  
SEND FOR CATALOGUE AND PRICES.

The CANTON STEEL ROOFING CO.  
CANTON, OHIO.  
MANUFACTURERS  
Stamped Steel Ceilings  
AND  
All Kinds of Sheet Metal Goods for Buildings.  
WRITE US.

STANDARD OIL COMPANY,  
(OF NEW YORK.)

GEO. H. HOPPER DEPT.

GRAPHITE PAINTS

Not affected by Heat, Cold, Acid or Water.

Also all kinds of Linseed Oil and ASPHALT PAINTS.

26 Broadway, - - - NEW YORK.



Raw Hide is

Air-tight  
Odorless  
Waterproof  
Tough as Leather

Paper Makers

C. S. GARRETT & SON,

12 and 14 Decatur St., Philadelphia.

GLASS BENDING A SPECIALTY.

STAINED GLASS WINDOWS

OF EVERY DESCRIPTION.

C. W. ASBRAND,  
280 Erie Street,  
CLEVELAND, OHIO.



NATIONAL  
ROOFING & SUPPLY CO.

LOUISVILLE, KY.

Gravel Roofers,  
Cement and Asphalt Pavers,  
Building Papers,  
Two and Three-Ply Ready Roofing.

P. & B. PAPERS  
WILL GIVE  
THE BEST  
OF PROTECTION  
TO BUILDINGS  
OF ALL KINDS,  
NO MATTER HOW  
EXPOSED.  
THEY ARE MORE  
EXTENSIVELY USED  
WHERE GOOD  
SHEATHING  
AND INSULATING  
ARE REQUIRED  
THAN ANY  
OTHER PAPERS.  
PERFECTLY  
AIR TIGHT AND  
MOISTURE PROOF,  
AND ARE STRONG,  
DURABLE  
AND ODORLESS.

WRITE FOR  
SAMPLES AND PRICES.

THE STANDARD PAINT CO.

Sole Manufacturers

81-83 John St., NEW YORK.  
Chicago Office, 189 Fifth Ave.

DOES  
YOUR ROOF LEAK?

IF an old leaky tin, iron or steel roof, paint it with Allen's Anti-Rust Japan. One coat is enough; no skill required; costs little.

The name describes it; proof against water, time, climate, and fumes of every description. Stops leaks and prolongs the life of an old roof.

If you want the evidence write us.

To be returned at our expense if not satisfactory.

ALLEN ANTI-RUST MFG. CO.  
413 Vine St., Cincinnati, O.

Don't Keep It Dark.

A Light Factory is better than a Dark one. It is more cheerful, and enables a manufacturer to turn out more goods, cheaper goods and better goods. Manufacturers can increase the light in their buildings and protect them against fire by Whitening the Inside Walls and Ceilings with

ASBESTINE  
COLD WATER PAINT.

This article is furnished only in White, as it is intended to MAKE LIGHT THE DARK PLACES.

The Best and Cheapest Paint for OUTSIDE use is

ASBESTINE WEATHERPROOF  
COLD WATER PAINT,  
which is furnished in WHITE and SIXTEEN COLORS.

These Paints are furnished in POWDER FORM, requiring only the addition of COLD WATER to be READY FOR INSTANT USE.

GEO. S. ADAMS,  
Sole Manufacturer,  
46 Gold Street, NEW YORK.



Cortright

METAL . . .  
SHINGLES

Are recognized  
as the best, both  
in Construction  
and Material . . .  
used . . .

Illustrated Catalogue  
Prices and Sam-  
ples free.

Cortright Metal Roofing Co.  
50 N. 23d St., Phila. 134 Van Buren St., Chicago.

# Seamless Hosiery

The finest and best  
Knit Fabrics for any  
purpose are made on

## SPRING BEARD NEEDLES.

There is only one  
Seamless Knitting  
Machine using Spring  
Beard Needles.

Superior to all other  
machines in

**Simplicity,  
Durability,  
Large Product,  
Fine Gauges,**

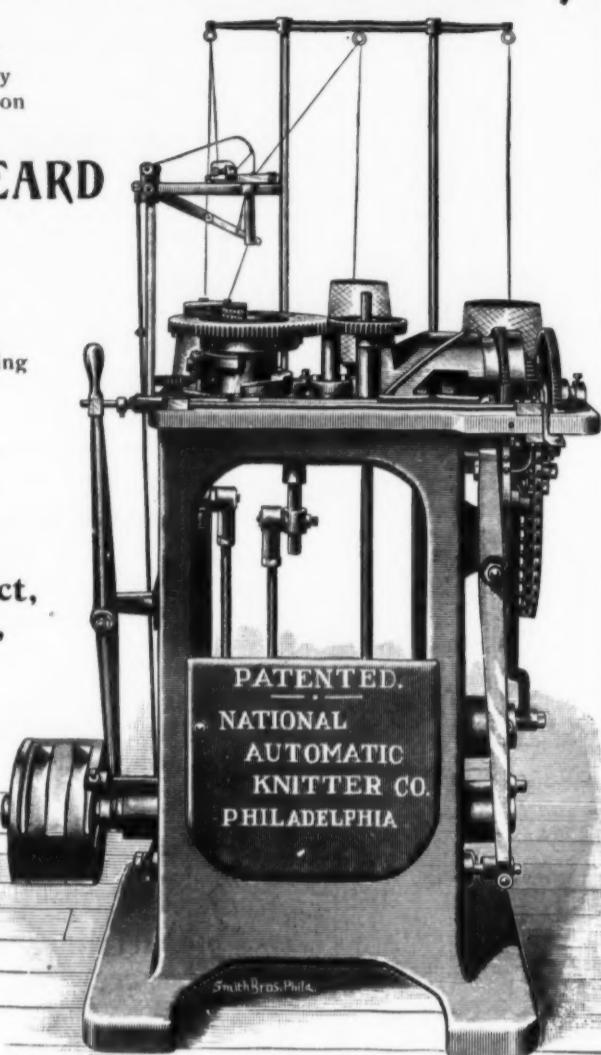
**Superiority of Fabric  
And as a Money-Maker.**

THOROUGH  
INVESTIGATION  
INVITED.

Full information may  
be had by applying  
to the builders.

**National  
Automatic  
Knitter Co.**

724-26-28 Cherry St.,  
PHILADELPHIA.



**BRANSON MACHINE Co.**

BUILDERS OF

## KNITTING · MACHINERY.

Hand or Power,  
Open Top or Hold Down,  
Semi or

### $\frac{3}{4}$ Automatic Knitters,

All sizes and all gauges.

Plain, Welt or Two Feed

RIBBERS.

LOOPERS AND PARTS.

PRESSES AND BOARDS.

WINDERS AND BOBBINS.

HAND-FORGED STEEL CYLINDERS.

**BRANSON MACHINE CO.**

506 St. John Street, - - - - - PHILADELPHIA, U. S. A.

Write for Information and Catalogue.

# Our Looms in the South

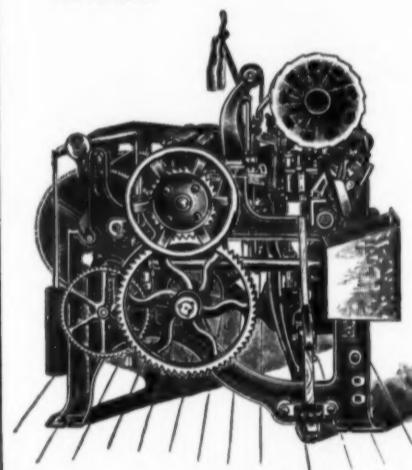
**468** looms running at Tucapau Mill, S. C.  
**1000** looms running at Pelzer Mfg. Co., S. C.  
**800** looms running at Lockhart Mill, S. C.  
**1040** looms running at Gaffney Mills, S. C.  
**60** looms running at Wilmington Mills, N. C.  
**48** looms running at Meridian Mill, Miss.  
**100** looms running at Henrietta Mills, N. C.  
**300** looms sent to Steeles Mills, N. C.  
**150** looms ordered by Victor Mfg. Co., S. C.  
**1360** looms ordered by Spartan Mfg. Co., S. C.  
**300** looms ordered by Abbeville Co., S. C.  
**250** looms ordered by Whitney Co., S. C.

**5876 in all.**

## And in the North?

7000 looms with our devices in one mill alone.  
28 other mills have also had orders filled or  
entered.

Best record to date—one weaver running 32  
looms



## The Northrop Loom

is no longer an exper-  
iment. The above  
orders prove it.  
The managers of the  
above mills are too  
experienced to risk a  
failure.

They appreciate a real improvement, however.  
A mill that orders common looms at the  
present time deliberately handicaps its future  
prospects.

The whole cotton manufacturing world has  
found profit in the use of our Spindles,  
Temples, Rings and Separators.

We trust our advice in the past has been  
worthy of confidence.

We now recommend this loom and stake  
our reputation on its success.

**What mill can afford to disregard  
the above facts?**

**DRAPER CO.**

HOPEDALE, MASS.

# CHARLOTTE MACHINE COMPANY,

Sole Southern Agents for  
**Pettee Machine Works,**  
 NEWTON, UPPER FALLS, MASS.  
 Manufacturers of  
 Revolving Flat Cards,  
 Collier Railway Heads,  
 Collier Drawing Frames.

H. S. CHADWICK, President and Treasurer.  
 CHARLOTTE, N. C.  
**ENGINEERS, CONTRACTORS**  
 and  
**Dealers in Machinery.**

SPECIALTY:

## COTTON MACHINERY and COTTON MILL EQUIPMENT

Also Agents for

**THE CORLISS STEAM ENGINE CO.**, Corliss Engines, High-Pressure, Triple Expansion, Compound and Condensing. Boilers, Heaters and Pumps.

**E. JENCKES MFG. CO.**'s Automatic Knitting Machines for the manufacture of ladies' and gentlemen's hosiery.

**JONES & LAUGHLIN'S** Cold Rolled Steel Shafting, Compression Couplings, Hangers, Pulleys, Etc.

**A. T. ATHERTON MACHINE CO.**, Manufacturers of Patent Cotton Openers, Opener Feeders and Lappers.

**FALES & JENKS MACHINE CO.**, Manufacturers of Spinning and Twisting Machinery, with No. 49 D Rabbeth and Sherman Spindles.

Estimates Given and Contracts Made for the Complete Equipment of Cotton Mills.

CORRESPONDENCE SOLICITED.

Sole Southern Agents for  
**Easton & Burnham Machine Co.**  
 PAWTUCKET, R. I.  
 Manufacturers of  
 Improved Upright Spoolers  
 Cop, Skein or Bobbin,  
 Doubling Spoolers,  
 New Self-Oiling Spooler Spindle.

Agents for  
**General Electric Company.**  
 We make contracts for  
 Electric Light Plants and all kinds of  
 Electrical Work.  
 We carry Full Line of Electrical Supplies of all kinds.

Special Southern Agents for  
**B. F. Sturtevant Co.**  
 BOSTON, MASS.  
 Manufacturers of  
 The Sturtevant Blower System,  
 Heating, Ventilating and Moistening Apparatus.

Agents for  
**Cohoes Iron Foundry  
& Machine Co.**  
 COHOES, N. Y.  
 Slashers, Size Kettles and Sizing  
 Machinery.

# LOOMS

NOVELLO'S  
LOOM WORKS,  
WORCESTER, MASS.

Agents for  
**Curtis & Marble Machine Co.**  
 WORCESTER, MASS.  
 Cloth Shearing, Brushing, Singeing,  
 Rolling, Folding, Measuring and  
 Sewing Machines.

# AMERICAN SUPPLY COMPANY,

Formerly MYRON FISH & CO., of Valley Falls, R. I., and KENDRICK LOOM HARNESS CO., of Providence, R. I.

MANUFACTURERS OF

# Loom Harness and Reeds.

OAK BELTING, LACE AND PICKER LEATHER,

And Dealers in Supplies for Cotton, Woolen and Silk Mills.



Agents for JOSEPH NOONE'S SONS'

Roller, Slasher and Clearing Cloths,  
 Calf, Sheep and Lamb Roller Skins  
 and Roll Coverers' Tools.

WE HAVE UNEQUALLED FACILITIES FOR FURNISHING

Shuttles and Heddle Frames,  
 WIRE HEDDLES AND WIRE GOODS  
 Of all Descriptions.

SPECIAL NOTICE TO WORSTED AND SILK MILLS.--We manufacture both Worsted and Cotton-Machine Knit Mail Harness for Weaving Fine Worsted and Silk Goods. Also a full line of Supplies for Jacquard Looms.

Office and Salesrooms, 11-13 Eddy Street, Providence, R. I.

PELEG W. LIPPITT, President.

JOHN E. KENDRICK, Vice-Prest.

MYRON FISH, Treas.

JOHN A. CARTER, Sec'y

JOSEPH H. KENDRICK, General Manager.

FACTORIES:  
 PROVIDENCE and VALLEY FALLS, R. I.

# LOWELL MACHINE SHOP, LOWELL, MASS.

# Cotton Machinery

We Manufacture Everything Required  
for the Complete Equipment of Cotton Mills.

Plans and Estimates Furnished on Application.

Correspondence Solicited.

## STANDARD MILL SUPPLY CO.

MANUFACTURERS AND DEALERS IN

### GENERAL MILL SUPPLIES.

Belting, Bobbins, Reeds, Heddles, Heddle Frames, Shuttles, Pickers, Twines, Tapes and Leather of all kinds. ROLL COVERERS' TOOLS and SUPPLIES.

77 Exchange Place, PROVIDENCE, R. I.

### CARDS.

MASON  
MACHINE WORKS,  
**COTTON MACHINERY,**  
TAUNTON,  
MASS.

### MULES.

### FRAMES

### LOOMS.

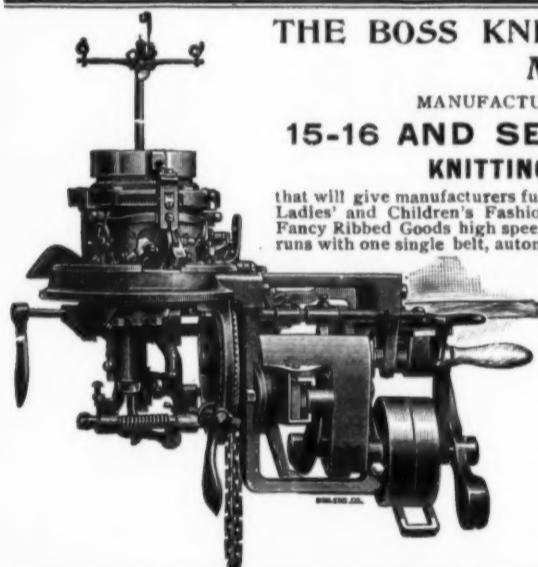
## KILBURN, LINCOLN & CO.

FALL RIVER, MASS.

# LOOMS

For Cotton and Silk Weaving.

The Seaconnet Mills, Fall River, wove in 301 days of ten hours each, 14,329,219 yards of 64x64 goods on 928 of our "New High-Speed Looms," a daily average of 51,310 yards per loom per day.



### THE BOSS KNITTING MACHINE WORKS

MANUFACTURES THE ONLY  
**15-16 AND SEMI-AUTOMATIC  
KNITTING MACHINE**

that will give manufacturers full value for their money. Knits plain Ladies' and Children's Fashioned Hose, Half-hose and Footing. Fancy Ribbed Goods high speed. Need no skilled operators, the 1/2 runs with one single belt, automatic tension device in the leg, heel and toe, thereby making large, perfect heel and toe. Built in sizes from 3/4 up to 4 1/2 inches in diameter. Send for prices and particulars to

**THE BOSS KNITTING  
MACHINE WORKS,**  
Cor. 7th and Walnut Sts.,  
READING, PA.  
Forged Hardened Steel  
Cylinders a Specialty.

This cut shows our Latest Improved 15-16 Automatic Machine; for Simplicity and Durability it has no equal.

## SAVOGRAN

Cleans Wool, Mill Floors, ANYTHING.

FOR COTTON AND WOOLEN MILLS.

Standard Articles for their Purposes.

INDIA ALKALI WORKS, 77 Bread Street, Boston.

### FOR SALE. Cotton and Woolen Machinery.

A large lot to select from in our storehouses here with over two acres of storage.

**JEREMIAH CLARK,**  
277 DUTTON STREET, LOWELL, MASS.  
Send for Catalogue.

ESTABLISHED 1865.

# SCOTT & WILLIAMS,

BUILDERS OF

# KNITTING MACHINERY.

Works:  
2079 East Cumberland St.

GENERAL OFFICES AND SHOWROOMS:  
S.W. COR. SIXTH & ARCH STS.  
(KNICKERBOCKER BUILDING)

Philadelphia.

James V. Williams

Cable Address,  
Scovill.

## NYE & TREDICK, PHILADELPHIA, PA., U. S. A.

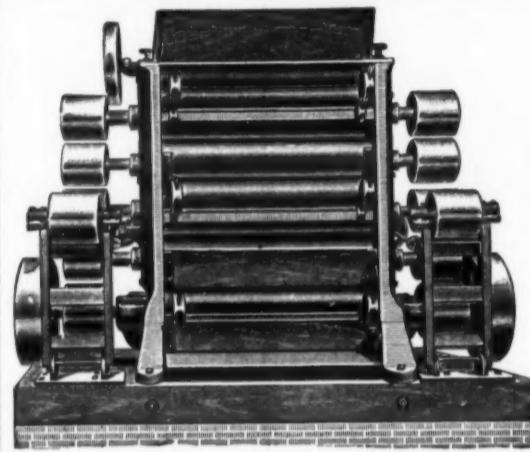
### The Leading MANUFACTURERS of **CIRCULAR RIB KNITTING MACHINERY**

Send for Prices and Circulars.

M. A. FURBUSH & SON MACHINE CO.  
MANUFACTURERS OF

## WOOLEN MACHINERY

224 MARKET STREET, PHILADELPHIA.



Manufactured by  
**G. H. BUSHNELL PRESS CO.,** Man'f's Oil Mill Machinery. Thompsonville, Conn., U. S. A.

## THE ENGLISH SUPPLY & ENGINE CO.

DEALERS IN  
**MACHINERY and SUPPLIES.**

### SPECIALTIES:

Erie City Iron Works, Engines and Boilers. "Jewel" Oak Tanned Leather Belt. "Snow" Duplex Pumps. "Shultz" Rawhide Leather Belt. "Marsh" Steam Pumps. "Sawyer" Canvass Stitched Belt. "Dodge" Wood Split Pulleys. "Norton" Emery Wheels. "John A. Roebling's Sons Co." Wire Rope. "Lunkenheimer" Valves and Oilers. "E. C. Atkins & Co.'s" Saws. "Magnolia" Babbitt Metal. "Jenkins" Valves and Packing. "Boston Belting Co.'s" Rubber Belting. Wrought Iron Pipe, Valves and Fittings. Etc., Etc., Etc.

WRITE FOR CATALOGUES AND PRICES.

410-412-414 W. 5th Street, KANSAS CITY, MO.



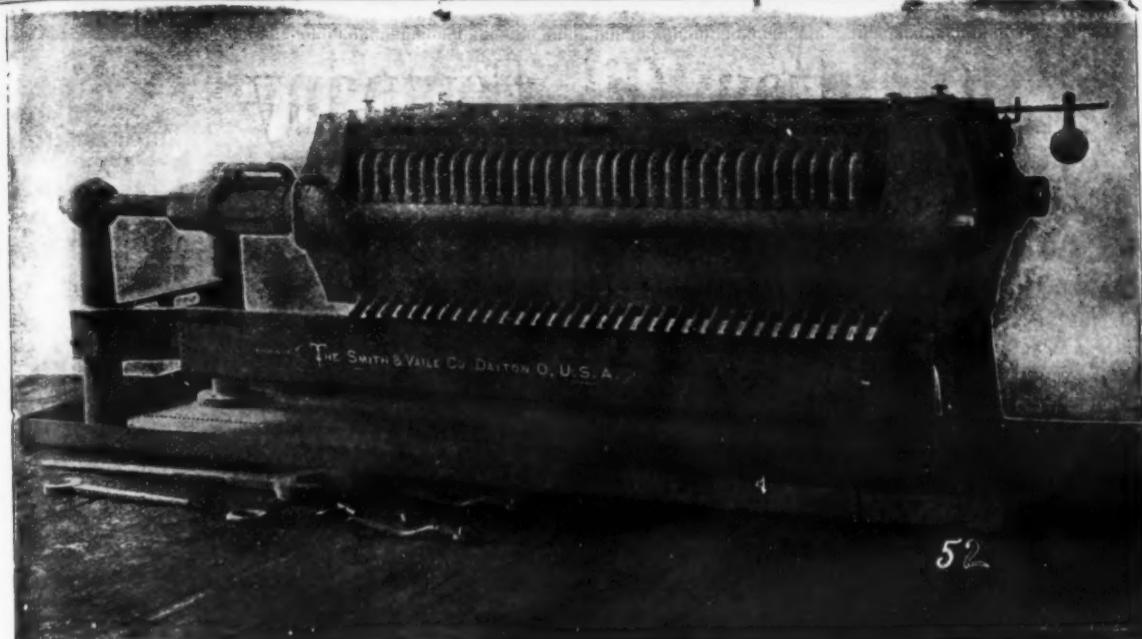
The  
"Swinging  
Hose Rack,"

PATENTED  
MAY 18TH, 1884.  
PATENTEE & MANUFACTURER  
JNO. C. N. GUIBERT,  
Room 107 Taylor Bldg., 29 Cortland Street,  
NEW YORK,  
Send for Catalogue.

Subscribe to the Manufacturers' Record.  
Price \$4 a year, or six months for \$2.

We make  
Cotton  
Hull  
Linen  
Saw  
Mac  
Saw

L



52

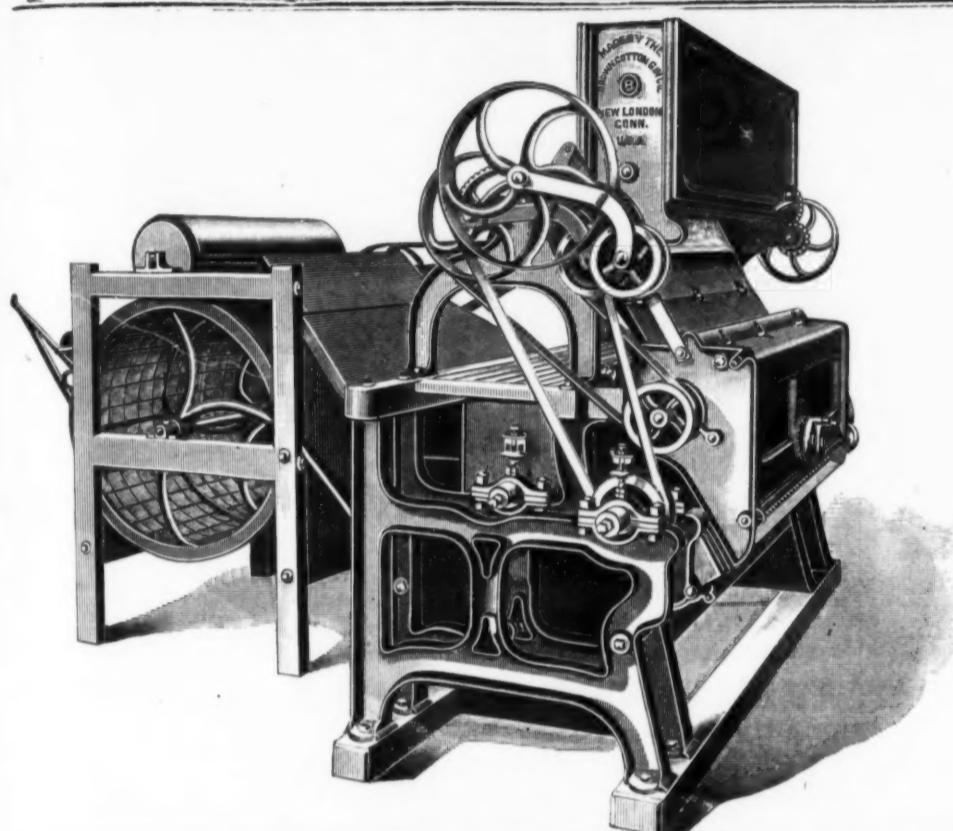
**STILWELL-BIERCE  
& SMITH-VAILE CO.**  
Builders of  
**Cotton and  
Linseed Oil MILLS**

Equipped With Modern Machinery  
TO PRODUCE BEST RESULTS.

Manufacturers of Filter Presses for use in the production of Porcelain, Stoneware, Chemicals, Glycerine, Inks, Pharmaceutical Preparations, Pyrolygneous, Phosphoric and Salicylic Acids, Earth and Chemical Colors, White Lead, Whiting, Plaster, Glue, Gela-Pine, Graphite, Alumina, Anthracine, Berlin Blue, Bi-Carbonate of Soda, Cream of Tartar, Paraffine, Stearine and Vegetable Oils, Starch, Glucose, Sugar, Chocolate, Yeast. Write for special catalogues.

General Offices and Factory, Dayton, O.

BRANCH HOUSES : 21 Light Street, Baltimore, Md.  
114 Liberty Street, New York.  
63 S. Canal Street, Chicago, Ill.  
341 Carondelet Street, New Orleans, La.



**THE 1897  
BROWN  
LINTER.**

Send now for:  
Full Particulars  
and Prices!

Automatic Feed.  
Oscillating Float.  
It has the Only Practical Segment Saw Cylinder.  
Its Seed Board has the Greatest Range of Adjustment.  
Interchangeable Wearing Parts.

ADDRESS

**The Brown Cotton Gin Co.**

NEW LONDON, CONN.

**Latest Patented Improved**

We make  
Cotton Seed  
Hullers,  
Linters, G.n  
Saw Filing  
Machines,  
Saw Gummers.

Nine-tenths of the Linters  
of the United States  
are of our make.

BUILT BY THE  
**Carver Cotton Gin Company**  
EAST BRIDGEWATER, MASS.

We have made  
the famous  
Carver Gin  
84 years.

**COTTON SEED LINTER.**

**Cotton Seed Oil Mills**

have all the Latest Modern Improvements in Machinery, and produce the very best results.

**Hydraulic Cotton Presses**

of order and very durable. They are the BEST BALING PRESS made for Cotton, Wool, Rags, etc.

**Threshers and Cleaners**

For WHEAT, OATS and RICE. The  
Simplest, Cheapest and Best Made.

Information furnished upon application to  
**THE CARDWELL MACHINE COMPANY. RICHMOND, VA.**

**MERIDIAN MACHINE SHOPS, M. B. LEWIS.**

Leased and operated by  
Improved Cottonseed Hullers, Cake Breakers, Oil Press Boxes,  
Engines, Boilers and Castings of all kinds.

Sole  
Manufacturers

**THE IMPROVED FULL CIRCLE HUNTER HAY PRESSES.**  
MERIDIAN, MISS

**COTTON OIL TANK CARS**

ALSO MANUFACTURE

ALL STYLES FREIGHT EQUIPMENT.

MURRAY, DOUGAL & CO. LTD. MILTON, PA.

MADE ESPECIALLY FOR

COTTON OIL TRADE

**THE ROBINSON  
OILS**

"they lubricate more, and outlast other oils."

High-Grade,  
Cylinder, Engine, Spindle,  
Dynamo Oils.

Oils for all types of Machinery.

GREASES.

WM. C. ROBINSON & SON,  
217 South Street, BALTIMORE, MD.



# The American Cotton Oil Company

MANUFACTURERS AND REFINERS.

## Cotton-seed Products

### Oil, Cake, Meal, Linters, Ashes, Hulls.

Cable Address: AMCOTOIL, New York.

THE AMERICAN COTTON OIL COMPANY, 46 Cedar St., New York.



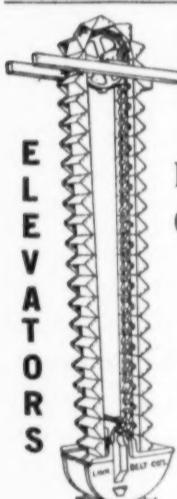
### Cottonseed Oil Machinery.

### Tobacco Cutting Machinery. BRASS GOODS

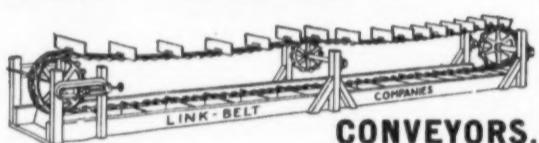
for Engine Builders, Steam, Water and Gas Fitters. Write for Catalogue.

BUCKEYE IRON & BRASS WORKS,  
DAYTON, OHIO, U. S. A.ROBERTS MANUFACTURING CO., Beaver Falls, Pa.  
Elevating & Conveying Machinery

Special Wrought and Steel Chains of every description; Coil and Cable Chains; Chain Haulages for Coal Mines; Sprocket Wheels; Complete Coal and Ashes Handling Plants; Wire Rope Haulages and Wire Rope.



## LINK-BELT

Friction  
Clutches.

COAL and ASHES Handling Machinery for Power Houses and Industrial Plants.

Appliances for ELEVATING or CONVEYING any material in bulk or package. Power Transmission Machinery.

LINK-BELT ENGINEERING CO.,  
Nicetown, Phila. 49 Dey Street, New York.  
(CHICAGO: LINK-BELT MACHINERY CO.)

### Chain Elevators. Conveyors.



### Don't Make a Mistake.

A comparison of merits of different makes of Elevator Buckets will always result in a decision that the "SALEM" has no equal for long and satisfactory service. Send for price list.



The W. J. CLARK CO., Salem, Ohio, Sole Manufacturers.

Coal and Coke Forks and Cottonseed Forks  
WITH IMPROVED STRAP FERRULES,  
Are the Strongest and Wear the Longest.  
GET THE BEST. BUY NO OTHERS.REMINGTON MACHINE CO. WILMINGTON,  
DEL., U. S. A.

### BUILDERS OF Refrigerating & Ice-Making MACHINERY

From one half to fifty tons capacity.

We Make a Specialty of

### SMALL MACHINES

and have the most successful system of Mechanical Refrigeration for Dairies, Packing Houses, Hotels, Market Houses, Steamships, and wherever a moderate amount of refrigeration is required.

The Remington Vertical Ammonia  
COMPRESSORS  
are built either with engine direct connected on same base or for belt power.They are the SIMPLEST, MOST COMPACT, and EFFICIENT MACHINES yet designed for this purpose.  
Skilled help not required for their operation.N. C. ROYSTER, Birmingham, Ala. | South. Agts.  
J. C. WEAVER, Dallas, Texas.THE FRED. W. WOLF CO. 139 REES ST.  
CHICAGO, ILL.

## LINDE ICE MACHINE

For Ice Factories, Cold Storage Warehouses,  
Breweries and Packing Houses.From 3 to 500  
Tons  
Capacity.Over 2500 Machines in use  
in 48 countries of the globe.

Something New!

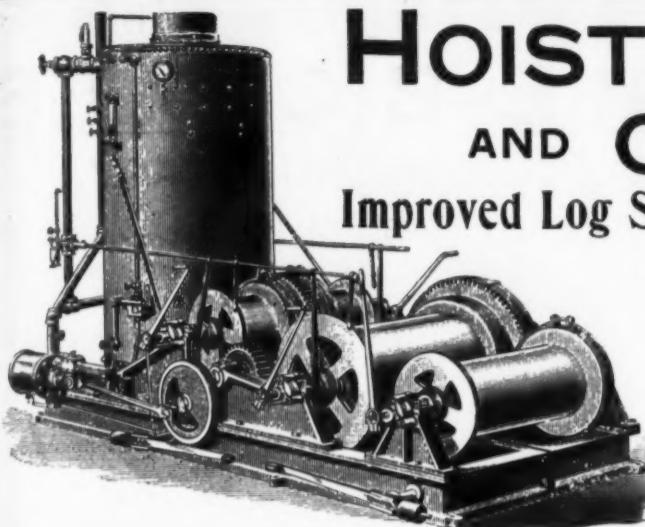
We carry a full line of SUPPLIES for ice and Refrigerating Plants.

Ammonia Fittings, Anhydrous Ammonia, Salt for Brine, Steam and Brine Pipe Covering, Brine Pumps, Filters and Filtering Material, Oils, Steam and Ammonia Separators, Gauges and Thermometers, Cranes, Derricks, Packing, Gaskets, Ice Cans, Ice Machine Paints, Ice Tools, Boilers and Boiler Accessories, Insulating Materials, Oil Cups, Inspirators, etc., etc.

WRITE FOR COMPLETE CATALOGUE.  
S. E. Branch, Equitable Building, E. E. Eagan, Mgr., Atlanta, Ga.  
Western Branch, Clot & Meese, 129 Fremont St., San Francisco, Cal.

S. W. Branch, E. P. Maddox, Mgr., Ft. Worth, Tex.

Wire Br...  
Iron, Br...  
Bellows,  
Chaplets  
Moulders  
Gears a...



# HOISTING ENGINES AND CABLEWAYS.

Improved Log Skidding & Pull Boat Machinery.

Why is our Skidder Superior to any Other?

- 1—We furnish a larger Boiler.
- 2—We furnish a larger Engine.
- 3—We furnish a Self-Lubricating Block.
- 4—Our carriage contains features new and novel, which will recommend it over all others.
- 5—We furnish better Cables.
- 6—Our prices are based on a fair and legitimate profit.

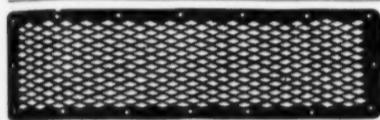
C. S. BURT  
CO., Ltd.  
Agents,  
New Orleans,  
La.  
732 and 734  
Union Street,

LAMBERT HOISTING ENGINE CO.

NEWARK, N. J.

Successors to W. A. CROOK & BROS. CO.

THE JOHN F. BYERS MACH. CO.  
RAVENNA, OHIO.  
MFGRS. OF GEARED  
LOCOMOTIVES,  
HOISTING ENGINES,  
TRAVELING  
DERRICK CARS,  
BUILDERS ELEVATORS  
DERRICK IRONS, HAND POWERS, BLOCKS,  
SHEAVES, & CONTRACTORS SUPPLIES.



PERFORATED STEEL STAIR TREADS.  
Agents wanted in every city.  
A. J. BECKLEY & CO., Garwood, N. J.

THE BROWN HOISTING AND CONVEYING MACHINE CO. CLEVELAND, O.  
MACHINERY FOR HANDLING  
COAL AND ORE.  
**CRANES**



Our **Hustler**  
Wheel  
With

WIRE WEB Will Run WET or DRY.

ONE of the Best EMERY  
Wheels made. Will do  
all the work of any other  
make and has points of  
superiority over its com-  
petitors. Let us tell you  
what they are.

VITRIFIED WHEEL CO., WESTFIELD, MASS.

Send for Catalogue M

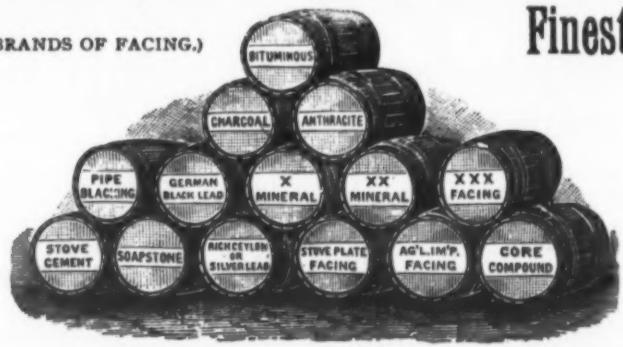
THE WEIR FROG CO.  
CINCINNATI, O.  
FRED. G. WEIR, Pres.  
SOLE MANUFACTURERS OF  
IMPROVED RIGID & SPRING FROGS, CROSSINGS,  
SINGLE & THREE THROW SPLIT SWITCHES,  
FIXED & AUTOMATIC SWITCH STANDS, STEEL  
DIE FORMED RAIL BRACES, SWITCH FIXTURES, ETC.

CABLE & ELECTRIC  
TRACK WORK  
FROGS, SWITCHES  
CROSSINGS, CURVES  
RAIL CHAIRS  
ETC.



# FOUNDRY EQUIPMENTS.

(A FEW BRANDS OF FACING.)



MANUFACTURERS

Wire Brushes, Bristle Brushes,  
Iron, Brass and Steel Riddles,  
Bellows, Sifting Machines,  
Chaplets, tinned and plain,  
Moulder's Cast Steel Shovels,  
Gated and Hand Ladles in Stock.

ASK FOR  
ANY  
SUPPLIES  
YOU  
WANT.

Finest Stove-Plate Facings.

FIRE-PROOF and RETURN FACING.

CHARCOAL, SOAPSTONE, ANTHRACITE, PLUMBAGO,  
SEACOAL and MACHINE.

J. W. PAXSON CO.

1021 N. Delaware Avenue,

PHILADELPHIA, PA.



# WIRE ROPE

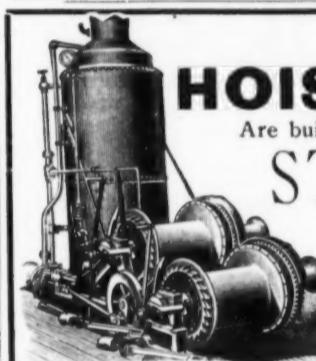
FOR ALL PURPOSES:

Wire Rope Tramways; Iron and Steel Wire

OF ALL KINDS.

TRENTON IRON CO., TRENTON, N. J.

New York Office, COOPER, HEWITT & CO., 17 Burling Slip.  
Chicago Office, 1114 Monadnock Building.



# LIDGERWOOD HOISTING ENGINES

Are built to Gauge on the Duplicate Part System.  
STANDARD for QUALITY  
and DUTY.  
FOR BUILDING PURPOSES, PILE  
DRIVING, EXCAVATING, Etc.

LIDGERWOOD MFG. CO.  
96 Liberty Street, NEW YORK.

Chicago.  
Portland, Ore.

Philadelphia.  
New Orleans.

STERLING EMERY WHEEL  
MFG. CO.  
TIFFIN, OHIO.



CORRESPONDENCE SOLICITED.

MINING, LOGGING, PLANTATION, CONTRACTORS'  
and SMALL CARS OF ALL KINDS.

Wheels, Axles, Irons, &c.

GEO. PEACOCK, Selma, Ala.

# CARS

Send or  
Catalogue.

IF YOU HAD  
ITS AGENCY  
YOU'D FIND IT  
NO TROUBLE  
TO SELL

## The Quaker Wheel

Superbly constructed, typifying the highest attainable excellence in Bicycle design and perfection, the trade recognizes it as  
THE WHEEL THAT SELLS ITSELF.

**PENN MFG. CO., ERIE, PA.**

### 2d-Hand Wheels,

VICTORS and other makes.  
'95 Pattern, - \$25.  
'96 " \$30 to \$40.  
Guaranteed in Good Order and Bargains at the Price.

### '96 Victor Bicycles

Brand New.  
Fresh from the Factory.

At REDUCED PRICES.

Either Ladies or Gentlemen's.

### CLINE BROS.

304 W. Baltimore St.  
BALTIMORE, MD.

### THE BRADSTREET Mercantile Agency

WAS ESTABLISHED IN 1849.

Is the oldest and financially the strongest organization of its kind, working in one interest and under one management, with more capital invested in the business, and expends more money every year for the collection and dissemination of its information than any similar institution in the world. Its reports are considered in the light of a guide by both investors and those contemplating the granting of credit. In addition to a large corps of skilled employees, more than one hundred thousand correspondents contribute the result of their investigation and opinions. Subscriptions are annual, and may commence at any time the subscriber elects. Details as to prices and terms will be furnished upon application.

CHARLES F. CLARK, President  
Baltimore Office, Equitable Building.  
H. KERSHAW, Supt.

**Hamilton McDowell**  
ENGRAVER AND ILLUSTRATOR  
MECHANICAL & CATALOGUE WORK  
A SPECIALTY  
170 GUILFORD AVE. BALTIMORE, MD.

If you are thinking of enlarging your mill, factory or mine, or of purchasing machinery of any kind, send us a postal card giving the character of machinery needed.

Some Bicycles pull as if a huge rock were tied to them.

## EAGLE BICYCLES

RUN EASY,

Coast Fast, Pull Hills Easy, Durable.

\$40, \$50, \$75, \$80, \$100.

The Man's and Ladies' Eagle at \$50 is the greatest value in the world.

Full Line of Bicycles and Sundries.

SPECIAL.—Juvenile Wheels, 20 and 24 in.  
List Price \$25.00 and \$35.00.

Big Discounts to trade.

Agents Wanted in Every Town.

### HENRY KEIDEL & CO.

BALTIMORE, MD.

Write for Catalogue.

Southern Distributing House Eagle Bicycles.

### About BICYCLES.

Before buying, send 2-cent stamp for our bargain list of Second-hand, High-grade Wheels. Good machines from \$10.00 up.

**EISENBRANDT CYCLE CO.**  
Agents for Columbia Bicycles, BALTIMORE.

### BICYCLES.

All Makes of Second-Hand Bicycles at Rock Bottom Prices.

All Wheels in Good Serviceable Condition.

WM. H. COLE & SONS,  
13 S. Charles Street. BALTIMORE, MD.

### Columbia Bicycles.

What is a Columbia Bicycle made of? Not of the best tubing in the market, but of better tubing than the market affords. Why? Because Columbia Bicycles are made of

### 5% Nickel Steel Tubing

We control the entire output of the only mill that makes this tubing, and use it exclusively in Columbia Bicycles.

STANDARD OF THE WORLD.

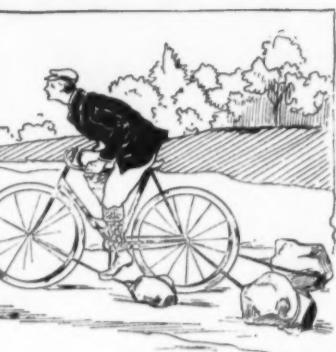
\$100 TO ALL ALIKE.

**POPE MFG. CO.**  
Hartford, Conn.

La gest Bicycle Factories in the World.  
More than seventeen acres of floor space.

Branch House or Dealer in almost every city and town.

You should know about bicycles. Send for the handsomest catalogue ever issued. Free if you call at any Columbia agent; by mail for one 2-cent stamp.



### HENRY KEIDEL & CO.

BALTIMORE, MD.

Southern Distributing House Eagle Bicycles.

### BUYERS of Machinery, Tools, Mining and Manufacturing Supplies

can find anything they need by referring to the advertising pages of the MANUFACTURERS' RECORD.

### SELLERS of anything that is required by

Machinists, Foundrymen, Iron Manufacturers, Coal and Iron Ore Miners, Textile Manufacturers, Woodworkers and Artisans of every class can reach more customers through the MANUFACTURERS' RECORD than in any other way.

BALTIMORE, MD.

R. S. DODSON, Proprietor.

R. A. DODSON, Manager.

### New Atlantic Hotel

Rates, \$2.50 to \$4.00.

NORFOLK, VA.

## Who does your Engraving?

THE BEST WORK

AT FAIR PRICES  
GIVE US AN OPPORTUNITY  
OF PLEASING YOU. ENGRAVINGS FOR THE  
MERCHANT, MANUFACTURER AND PRINTER.

**BALTIMORE ENGRAVING CO.**

BALTIMORE, MD. U.S.A.

A **PLANT**  
N. **BA**

Massachusetts  
Manitoba,  
Mobile,  
Mohawk,  
Mississippi,  
Michigan,  
BALTIMORE  
408  
New York,  
Philadelphia, &c.

BALTIMORE  
BOAT  
YORK RIVER  
Richmond, Va.  
On and off  
the Light street  
folk—leave  
6 P. M., c.  
Railway, and N.  
ern and N.  
West Point  
leave Balti  
o'clock P.  
Allmonds  
and Yorkt  
days and S.  
all points,  
Transfer C  
reservoir  
baggage c  
at General  
REUBEN  
Gen M

**MERC**  
TRA

For BO  
day, Thu  
For PR  
Monday, W  
For SA  
Tuesday  
For NE  
SOUTH—  
Pass  
Culaine t  
ited: care  
C. R. G  
A. W  
J. General

**OLD**  
Steamer  
ports of  
tions to al  
rates on l  
This rou  
and pleas  
business m  
markets S  
facilities o  
of freight  
For full  
address

**OLD**  
W  
Pier 20  
Or age  
and New  
Washington

**OLD**  
BAY  
LINE

TO  
OLD PO  
NORFOL  
RICHMO  
AND TH  
SOUTH

THE  
SWIFTEST  
SAFEST  
SUREST  
ROUTE

JOHN  
E. W.  
E. B.

**"B**  
T

"B  
Between  
Cin

"B  
Between  
Cin

"B  
Between  
Cin

"B  
Between  
Cin

E. O. M  
D. B.

A PLANTIC TRANSPORT LINE.	
NEW YORK, PHILADELPHIA and BALTIMORE to LONDON direct.	
TONS	TONS
Massachusetts, 7600	Minnesota, 5000
Manitoba, 7600	Menantic, 5000
Mobile, 7600	Massapequa, 6000
Mohawk, 7600	Maryland, 4250
Mississippi, 6500	Missouri, 4250
Michigan, 5500	Montana, 4250
	Maine, 4150

BALTIMORE STORAGE & LIGHTERAGE CO.  
408-409 Water Street, Baltimore.  
New York, 4 Broadway. Chicago, 236 LaSalle st.  
Pittsfield, 205 Walnut st. St. Louis, 307½ Pine st.  
London, 165 Fenchurch st.

BALTIMORE, CHESAPEAKE & RICHMOND STEAM-BOAT CO. BALTIMORE AND NORFOLK LINE. YORK RIVER LINE. For Old Point, Norfolk and Richmond and all points South.

On and after JULY 1st, 1896, this company will operate the above-named lines from Pier No. 19, Light street, as follows: For Old Point and Norfolk—leave Baltimore daily (Sunday excepted) at 6 P. M., connecting at Norfolk with Southern Railway, Atlantic Coast Line, Norfolk and Western and Norfolk and Southern Railroads. For West Point, Richmond and Southern Railway—leave Baltimore daily (Sundays excepted) at 5 o'clock P. M., calling at Gloucester Point and Almonds Mondays, Wednesdays and Fridays, and Yorktown and Clay Bank Tuesdays, Thursdays and Saturdays. Through tickets issued to all points, and can be procured at the Baltimore Transfer Company, 205 E. Baltimore street, where reservations for staterooms can be made and baggage checked. For further information apply at General Offices, 330 Light street.  
REUBEN FOSTER, E. J. CHISM, Gen. Manager. Gen. Fgt. & Ticket Agt.

MERCHANTS & MINERS' Transportation Company.

For BOSTON and the EAST—Every Tuesday, Thursday and Sunday at 4 P. M.  
For PROVIDENCE and the EAST—Every Monday, Wednesday and Friday at 4 P. M.

For SAVANNAH and the SOUTH—Every Tuesday and Friday at 8 P. M.

For NEWPORT NEWS, NORFOLK and the SOUTH—Daily (except Saturday), 4 P. M.

Passenger Accommodation Unequalled. Cuisine the Best. Freight Capacity Unlimited; careful handling and quick dispatch.

C. R. GILLINGHAM, Agent, Long Dock.  
A. D. STEBBINS, A. T. M.  
W. P. TURNER, G. P. A.  
J. C. WHITNEY, T. M.  
General Offices—216 WATER STREET.

OLD DOMINION LINE

Steamers daily to and from New York and the ports of Virginia, with rail and water connections to all points. Through passage and freight rates on lowest terms.

This route specially commends itself to tourists and pleasure seekers, prospectors, settlers and business men, reaching, as it does, all the great markets South, Southwest and West, while its facilities for the safe and expeditious handling of freight of all kinds are unsurpassed.

For full information as to rates, sailings, etc., address

OLD DOMINION STEAMSHIP CO.

W. L. GUILLAUME, Traffic Mgr.  
Pier 26, N. R., NEW YORK.  
Or agencies at Norfolk, Richmond, West Point and Newport News, Va., Newberne, N. C., Washington, N. C., and in the North and East.

BALTIMORE STEAM PACKET CO.

OLD BAY LINE

TO OLD POINT, NORFOLK, RICHMOND, AND THE SOUTH.

THE SWIFTEST, SAFEST, SUREST ROUTE.

JOHN R. SHERWOOD, Gen. Manager.  
E. W. THOMPSON, Traffic Manager.  
E. BROWN, Gen. Ticket Agent.

"BIG FOUR"

THREE GREAT TRAINS.

"KNICKERBOCKER SPECIAL"  
Between St. Louis, Indianapolis, Cleveland, Cincinnati, New York and Boston.

"SOUTHWESTERN LIMITED"  
Between Cincinnati, Columbus, Cleveland, New York and Boston.

"WHITE CITY SPECIAL"  
Between Cincinnati, Indianapolis and Chicago.

E. O. McCormick, Passenger Traffic Manager.  
D. B. Martin, Gen. Pass. and Ticket Agt.

\$2.50

BUFFALO  
TO  
CLEVELAND.  
DAILY LINE BETWEEN  
CLEVELAND and TOLEDO  
Via "C. & B. LINE"

Steamers "City of Buffalo," (new)  
"State of Ohio" and "State of New York."

DAILY TIME TABLE.

SUNDAY INCLUDED FROM MAY 30 TO OCT. 3, 1897.  
Lv. Buffalo, 8.30 P. M. | Lv. Cleveland, 8.00 P. M.  
Ar. Cleveland, 8.30 P. M. | Ar. Buffalo, 8.30 A. M.

EASTERN STANDARD TIME.  
Take the "C. & B. Line" steamers and enjoy a refreshing night's rest when enroute to Cleveland, Toledo, Columbus, Cincinnati, Indianapolis, Detroit, Northern Lake Resorts, or any Ohio, Indiana or Southwestern point.

Send 4 cents postage for tourist pamphlet.  
For further information ask your nearest Con-  
pon Ticket Agent, or address  
W. F. HERMAN, T. F. NEWMAN,  
Gen'l Pass. Agt. Gen. Manager.  
CLEVELAND, OHIO.

N & W Norfolk & Western R.R.  
BETWEEN

The NORTH and SOUTH, EAST and WEST.

THE SHENANDOAH "LIMITED."

New York and New Orleans, Washington and Memphis. Through the Shenandoah Valley & Southwest Virginia.

The Norfolk & Western Railw-y runs through the most productive and best farming sections of MARYLAND, VIRGINIA, WEST VIRGINIA OHIO and NORTH CAROLINA.

Through Sleeping Cars are run daily between New York, Washington, New Orleans and Memphis, Norfolk, Roanoke, Columbus and Chicago. From Columbus, Ohio, and the West this is the most desirable route for homeseekers to Virginia and the Carolinas.

AGENTS OF THE ROAD ARE LOCATED AT 296 Washington St., Boston, Mass.; 317 A Broadway, N. Y.; 1433 Pennsylvania Ave., Washington, D. C.; 129 E. Baltimore St., Balt., Md.; 83 N. High St., Columbus, O.; 119 W. 9th St., Chattanooga, Tenn.; 272 Main St., Norfolk, Va.; 88 Main St., Richmond, Va.; 806 Main St., Lynchburg, Va.

W. B. BEVILL, Gen'l Passenger Agent.  
ALLEN HULL, D. P. A., Columbus, O.

For information as to business opportunities and farm lands, address PAUL SCHERER, Immigration Agent, Roanoke, Va.

Wheeling & Lake Erie Railway  
NEW THROUGH LINE  
BETWEEN

TOLEDO and OHIO RIVER POINTS  
WHEELING, STUBENVILLE  
PITTSBURGH and MARIETTA.

THROUGH COACHES to the Ohio River, and through connections to Pittsburgh and all points EAST, via Akron, Cuyahoga Falls, Kent, Ravenna, Leavittsburg, Warren, Niles, Girard, Youngstown, New Castle and Allegheny.

The only Line ticketing its passengers through to Philadelphia, New York and New England Cities, via Washington and Baltimore, at Short Line Rates.

H. J. BOOTH, J. T. TOWNSEND,  
Gen. Traffic Mgr. Asst. Gen. Pass. Agt.

Managers of mills, factories, furnaces, mines, etc., and parties starting manufacturing enterprises and needing machinery or supplies of any kind will find it profitable to consult the advertising columns of the Manufacturers' Record. Its pages contain names of the best houses in the country among manufacturers of and dealers in machinery and mill supplies.

SOUTHERN RAILWAY  
THE NATIONAL HIGHWAY  
BETWEEN THE NORTH AND THE SOUTH.

Operating the "WASHINGTON AND SOUTHWESTERN LIMITED"

A magnificent train composed of Pullman Palace Drawing-Room Vestibuled Sleeping Cars between New York, Philadelphia, Baltimore, Washington and Atlanta, Montgomery, Mobile, New Orleans, Birmingham, Memphis, Savannah, Jacksonville and Tampa, Asheville, Hot Springs, Knoxville and Chattanooga. Dining-car service between Greensboro, N. C., and Montgomery, Ala.

Also the "UNITED STATES FAST MAIL"

Composed of Pullman Palace Drawing-Room Sleeping Cars between New York and Montgomery, and New York and Jacksonville. Also carries Day Coaches between Washington and Atlanta without change. This line was selected by the United States Government for the prompt expedition of the mails. The only line penetrating Western North Carolina, affording the most magnificent scenery east of the Rocky Mountains. Write for "The Land of the Sky and Beyond," a beautifully-illustrated brochure, or "Summer Homes Folder," giving information concerning hundreds of elegant Summer Resorts.

W. H. GREEN.

General Superintendent.

J. M. CULP,

Traffic Manager.

W. A. TURK,

General Passenger Agent.

WESTERN MARYLAND RAILROAD.

Short Freight Line to Westminster, Frederick, Taneytown and Hagerstown, Md.; Waynesboro, Chambersburg, Shippensburg, Hanover, Gettysburg and Carlisle, Pa.; also points on the Frederick Division P. R. R., Gettysburg & Harrisburg R. R., Harrisburg & Potomac R. R., Shenandoah Valley R. R., Norfolk & Western R. R. and connections, also route of

GREAT SOUTHERN DESPATCH.

All-rail Fast Freight Line for Southern and Southwestern points, via Bristol, Tenn. Freight received in any quantity at Hillen Station, and in carloads at Fulton, Canton and Jackson's Wharf. Shippers desiring information will be called on. Send postal card with address to

B. H. GRISWOLD, General Freight Agent,  
HILLEN STATION, BALTIMORE, MD.

The Coast Line to MACKINAC.

TAKE THE



MACKINAC  
DETROIT  
PETOSKEY  
CHICAGO

New Steel Passenger Steamers.

The Greatest Perfection yet attained in Boat Construction, Luxurious Equipment, Artistic Furnishing, Decoration and Efficient Service, insuring the highest degree of

COMFORT, SPEED AND SAFETY.

Four trips per week between Toledo, Detroit and Mackinac

Petoskey, "The Soo," Marquette and Duluth.

Low rates to picturesque Mackinac and return, including meals and berths. From Cleveland, \$18; from Toledo, \$15; from Detroit, \$13 50.

Day and Night Service

Between Detroit and Cleveland

Connecting at Cleveland with earliest trains for all points East, South and Southwest, and at Detroit for all points North and Northwest.

Sunday Trips June, July, August and September Only.

Every Day Between

Cleveland, Put-in-Bay and Toledo.

Send for illustrated pamphlet. Address

A. A. SCHANTZ, G. P. A., DETROIT, MICH.

THE DETROIT AND CLEVELAND STEAM NAV. CO.

ARE YOU LOOKING

FOR A CHANGE IN LOCATION?

If you are not satisfied with your present site, or if you are not doing quite as well as you would like to, why not consider the advantages of a location on the Illinois Central R. R. or the Yazoo & Mississippi Valley R. R.? These roads run through South Dakota, Minnesota, Iowa, Wisconsin, Illinois, Indiana, Kentucky, Tennessee, Mississippi and Louisiana, and possess

FINE SITES FOR NEW MILLS

BEST OF FREIGHT FACILITIES

CLOSE PROXIMITY TO

COAL FIELDS AND DISTRIBUTING CENTERS

AND

INTELLIGENT HELP OF ALL KINDS

MANY KINDS OF RAW MATERIAL

FOR FULL INFORMATION WRITE THE UNDERSIGNED FOR A COPY OF THE PAMPHLET ENTITLED

100 CITIES AND TOWNS

WANTING INDUSTRIES.

This will give you the population, city and county debt, death rate, assessed valuation of property, tax rate, annual shipments, raw materials, industries desired, etc.

To sound industries, which will bear investigation, substantial inducements will be given by many of the places on the lines of the Illinois Central R. R., which is the only road under one management, running through from the Northwestern States to the Gulf of Mexico. GEO. C. POWER, Industrial Commissioner, I. C. R. R. Co., 506 Central Station, Chicago.



COMMERCE IS QUEEN.

Her Thrones Are Many,  
but  
an Important One Will be  
at

PORT  
ARTHUR  
TEXAS.

That means that the new Gulf City will be great and powerful.

Western men and Western enterprise will combine in building the port. It will command a large percentage of America's export trade.

Reasons are obvious.

Here the deep water of Sabine Pass will meet an air-line railroad piercing a fertile and productive section until it reaches Kansas City.

The Kansas City, Pittsburg & Gulf Railroad will connect by a short haul a centre for grain, live stock and manufactures with a city on deep water with a healthy site, in a neighborhood becoming more thickly populated.

To that place investors of wisdom and experience will direct their energies.

They will help to make Port Arthur a leading emporium, and Port Arthur will give them prompt and regular returns.

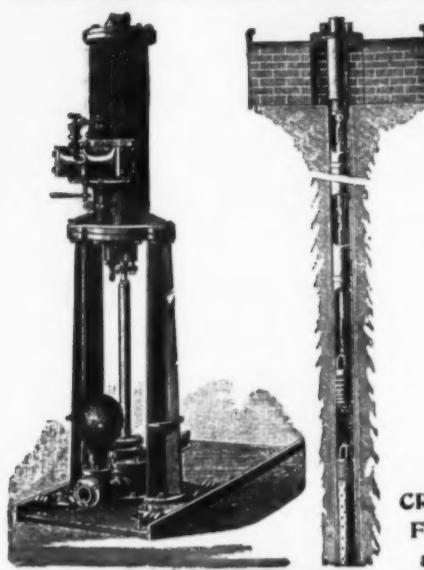
It is the coming city of the Gulf.

Address

F. A. HORNBECK,

Land Commissioner  
Kansas City, Pittsburg & Gulf R. R.

KANSAS CITY, MO.



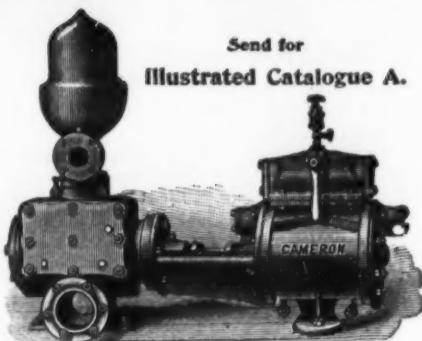
Artesian Well Pumps.

# CAMERON STEAM PUMPS.

Pumps for  
Boiler-Feeding,  
Mines,  
Refineries,  
Breweries,  
Tanneries,  
Irrigating,  
Fire Purposes,  
Railroads and  
Filling Tanks.

CRANK,  
FLY-WHEEL  
and VACUUM

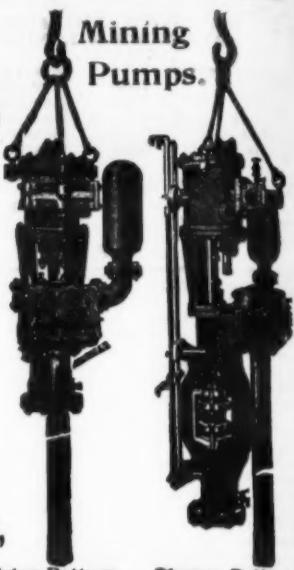
Send for  
Illustrated Catalogue A.



SIMPLE,  
COMPACT,  
DURABLE,  
EFFICIENT.

ADAPTED TO  
ALL PURPOSES.

NO OUTSIDE  
VALVE GEAR.



Piston Pattern. Plunger Pattern.

## PUMPS.

THE A. S. CAMERON STEAM PUMP WORKS,

Foot of East 23d St., NEW YORK.

New York,  
26 Cortlandt St.;  
Boston,  
41 Federal St.;  
New Orleans,  
215 Magazine St.;  
Pittsburg,  
14 Market St.;  
San Francisco,  
21 Main St.;  
Wheeling,  
City Bank Bldg.;  
Chicago,  
32-34  
W. Randolph St.;  
St. Louis,  
718-724 St. Charles St.; Kansas City, 408-412 West Fifth St.; Omaha, 1014-1016 Douglas St.;  
Dallas, Elm and Jefferson Sts.; Denver, 1601-1611 Seventeenth St.; Charleston, 14-20 Hasell St.



## THE IMPROVED SMITH & VAILE

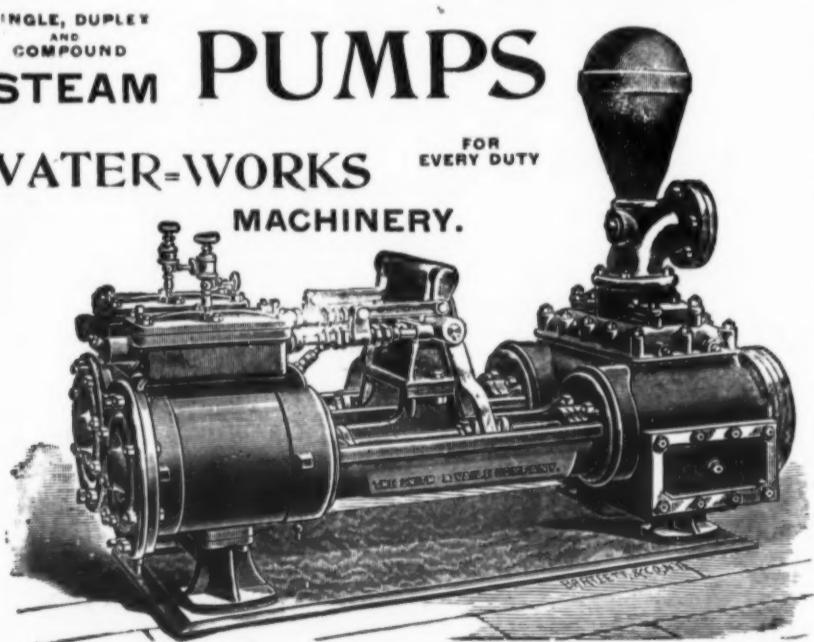
SINGLE, DUPLEX  
AND  
COMPOUND  
STEAM

## PUMPS

WATER-WORKS

FOR  
EVERY DUTY

MACHINERY.



THE STILWELL-BIERCE & SMITH-VAILE CO.

General Offices and Factory, DAYTON, OHIO.

BRANCH HOUSES.

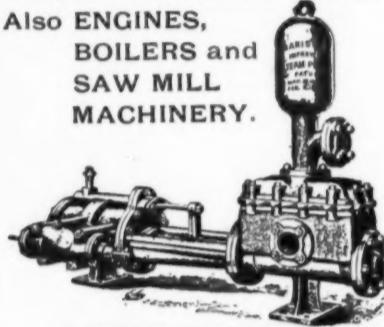
21 Light Street, BALTIMORE, MD.  
63 S. Canal Street, CHICAGO, ILL.

114 Liberty Street, NEW YORK.  
341 Carondelet Street, NEW ORLEANS, I.A.

THE MANISTEE STEAM PUMP,  
and all kinds of  
Pumping Machinery

From 1,000 to 30,000,000 Gals. Capacity.

Also ENGINES,  
BOILERS and  
SAW MILL  
MACHINERY.



MANISTEE IRON WORKS CO.  
MANISTEE, MICH.  
Southeastern Agent: JOHN H. BUXTON,  
21 South Gay Street, BALTIMORE, MD.

## PUMPS

Iron and Brass  
Hand and  
Wind Mill  
SPRAYING and TANK  
PUMPS.  
IRON and BRASS  
CYLINDERS.  
ARTESIAN WELL  
OUTFITS.  
CAST IRON SINKS,  
Etc.

Send for Catalogue and Prices.

THE BARNES MFG. CO., Mansfield, Ohio.

THE SNOW STEAM PUMP WORKS,  
BUFFALO, N. Y.

## Pumping Machinery

FOR ALL SERVICES.  
Philadelphia Office—506 Drexel Building.  
Baltimore Office—303 North Howard Street.  
Henion & Hubbell, 61 to 69 Jefferson Street, Chicago, Ill.  
Charlotte Supply Co., Charlotte, N. C., Agents for North Carolina.  
Bally-Lebby Co., Charleston, S. C., Agents for South Carolina.  
O'Connell-Rogers Co., Chattanooga, Tenn., Agents for Tennessee.

## CENTRIFUGAL PUMPING MACHINERY

FOR ALL SERVICE.

## MARINE ENGINES.

SIMPLE, COMPOUND and TRIPLE EXPANSION.

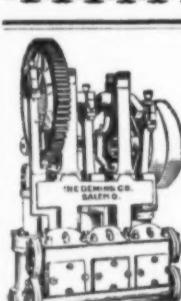
## "SHEPHERD" AUTOMATIC ENGINES

For Electric Light and Power Service. SIMPLE and COMPOUND.

DAVIS-FARRAR CO., ERIE, PA.

## PUMPS

FOR USE IN  
Furnaces, Mines and Factories.



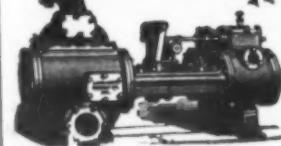
Triplex Power and Electric Pumps, Rotary Fire Pumps,  
Artesian Well Steam Pumps, Hydraulic Test Pumps, Etc.

MANUFACTURED BY

THE DEMING CO., SALEM, OHIO.

General Western Agents: Henion & Hubbell, 61-69 N. Jefferson St., Chicago, Ill.

Dean Bros. Steam Pump Works,  
—\*INDIANAPOLIS, IND. \*—



SINGLE & DUPLEX PUMPS.  
HORIZONTAL AND VERTICAL PUMPS.  
Best Design & Workmanship.  
PRICES REDUCED Send for CATALOGUE.

The  
Furnish  
under 30  
diamete  
power d

R  
SIM  
Our D  
Air C  
ound  
Valves  
and m

C  
F

THI

P  
C

RICH

PA

PA

PA

PA

PA

PA

PA

XUM



This Engraving Represents Two Pairs Horizontal 42-inch McCormick Turbines

Furnished the CLIFTON MFG. CO., Clifton, S. C., for their No. 3 Mill, developing 2360 horse-power under 30 feet head. Both pairs are coupled together, and power is taken off at one end by three 10 feet diameter rope sheaves carrying 48 ropes 1 1/4-inch diameter. A 27-inch horizontal Turbine of 225 horse-power drives dynamo and fire pump.

W. C. WHITNER & CO., Anderson, S. C., Southern Agents.

## S. MORGAN SMITH CO.

HYDRAULIC ENGINEERS,

YORK, PA.

MANUFACTURERS OF

## McCormick Turbines

Power Transmitting Machinery  
and Flume Work.

Estimates furnished for Complete Power Plants and Results Guaranteed

Some of our Recent Southern Customers. H. P.

The Clifton Manufacturing Co., Clifton, S. C.	3860
The John P. King Mfg. Co., Augusta, Ga.	2700
Anderson Wat., Light & Pow. Co., Anderson, S. C.	2300
The Mayo Mills Co., Mayodan, N. C.	800
The Roanoke Mills Co., Roanoke Rapids, N. C.	780
The Aiken Manufacturing Co., Bath, S. C.	700
The Steele Mills Co., Rockingham, N. C.	500
Reedy River Mfg. Co., Reedy River, S. C.	500
The Roberdel Mfg. Co., Rockingham, N. C.	400
Ida Yarn Mills, Laurel Hill, N. C.	300

Ida Yarn Mills, Laurel Hill, N. C. .... 300

## WATER WHEEL

150 Styles and Sizes. Upright and Horizontal.

33 YEARS' BUSINESS

affords every facility for adapting them to  
MILLING, MINING, ELECTRIC,  
and manufacturing purposes. Easy working balanced gate, and fine regulation. We guarantee highest power, with smallest quantity of water, at full and part gates. Successfully operating under heads of 2 to 300 feet. Write us for fine pamphlet and state your wants.

THE JAMES LEFFEL & CO.  
SPRINGFIELD, OHIO, U. S. A. NEW YORK CITY.



## BURNHAM WATER-WHEEL

We do not claim to obtain the greatest amount of power out of a given diameter wheel, but a wheel that will use water economically regardless of its diameter. To those that have water powers and wish to secure all the power possible out of a given amount of water, we are prepared to put in our present make of turbine and guarantee results.

For over 38 years Burnham wheels have been on market, and we have thousands of testimonials attesting to the merits of our wheel over other makes.

Prices are right. Let us know your requirements.

BURNHAM BROS., YORK, PA.

## RAND AIR COMPRESSORS

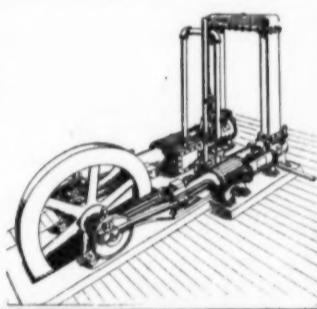
SIMPLE. DURABLE. ECONOMICAL.

Our DUPLEX COMPRESSOR, Compound Air Cylinders, with Inter-cooler and Compound Steam Cylinders, with Meyer Cut-off Valves, is the best construction for small and medium sizes.

Send for Catalogue.

RAND DRILL CO.

100 BROADWAY, NEW YORK.

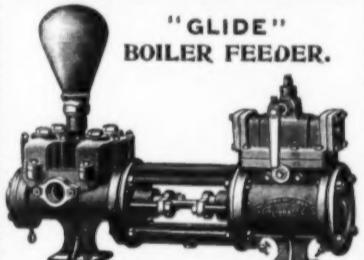


THE JOHN H. McGOWAN CO.

EVERY VARIETY

## PUMPING MACHINERY.

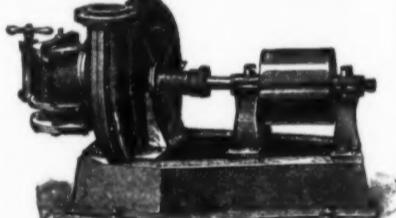
"GLIDE"  
BOILER FEEDER.



BRANCH, RICHMOND, VA. Cincinnati, O.

BALDWINSVILLE  
CENTRIFUGAL PUMP WORKS

IRWIN VAN WIE, Proprietor.



Manufacturer of Vertical, Horizontal and Suction Centrifugal Pumps, also Van Wie Triplex Pump, and Pumping Plants a specialty. Water works and Sewerage Pumps.

Send for New Catalogue.

718-725 W. Fayette St., Syracuse, N. Y., U. S. A.

"A perfect machine, and we would not be without it"

is the exclamation of all who use the

MUELLER  
Tapping Machine.

Sent on trial to responsible parties anywhere.

H. MUELLER MFG. CO.  
DECATUR, ILL.

VANDUZEN STEAM PUMP  
THE BEST IN THE WORLD.

Pumps Any Kind of Liquid.

Always in Order, never Clogs nor Freezes. Every Pump Guaranteed.

10 SIZES.

200 to 12000 Gallons per Hour.

Cost \$7 to \$75 each. Address

THE E. W. VANDUZEN CO.,

102 to 108 E. Second St., Cincinnati, O.

## CHAPMAN VALVE MFG. CO.



MANUFACTURERS OF  
STEAM, GAS and WATER VALVES and GATES.

## FIRE HYDRANTS

With or without Independent Valves.

All Valves and Hydrants Furnished with Babbitt Metal Seats and Non-Corrosive Working Parts.

Send for Illustrated Descriptive Catalogue and Prices. All Work Guaranteed.

All Genuine Chapman Valves bear our Name, Trade-Mark and Monogram.

General Office and Works: INDIAN ORCHARD (Springfield), MASS.

Treasurer's Office: 78 KILBY ST., BOSTON.

Chicago Office: 14 N. CANAL ST.

New York Office: 28 PLATT ST.

## THE LUDLOW VALVE MFG. CO.

Factory and Office: 938 to 954 River St., and 67 to 83 Vall Ave.

SEND FOR CATALOGUE.

TROY, N. Y., U. S. A.

MANUFACTURERS OF

## Valves and Fire Hydrants,

DOUBLE AND SINGLE GATE VALVES,

½-inch to 60-inch,

FOR LIGHT AND HEAVY PRESSURE,

ALSO

## Vertical and Horizontal Check Valves,

Foot Valves, Air Valves, and Yard and Wash Hydrants.



THE MAN WEEPS. Why does the man weep? He bought a single-jaw, one-sided, non-reversible Chain Pipe Wrench thinking it was a

## BROCK CHAIN PIPE WRENCH.

SAD MISTAKE. Don't you make it. This cut shows the real article.



SEE! It has double serrated jaws. None others are genuine.

THEY ARE MADE ONLY BY

J. H. WILLIAMS & CO., 9-31 Richards Street, Brooklyn, N. Y.  
DROP FORGINGS.



HENRY B. PANCOAST & CO.

SUCCESSORS TO

PANCOAST & MAULE,  
PHILADELPHIA, PA.



MANUFACTURERS AND DEALERS IN

WROUGHT-IRON PIPE AND FITTINGS,  
BRASS WORK AND TOOLS,  
BRASS AND IRON RAILING FITTINGS,  
"AMERICAN" SELF-PACKED UNIONS,  
"SKELETON" STOCKS AND DIES,  
STEAM GLUE HEATERS,  
STEAM RADIATORS AND COILS.

SEND FOR CATALOGUE.



1



2



3



4



5



6



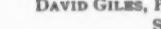
7



8



9



10



11



12



13



14



15



16



17



18



19



20



21



22



23



24



25



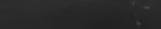
26



27



28



29



30



31



32



33



34



35



36



37



38



39



40



41



42



43



44



45



46



47



48



49



50



51



52



53



54



55



56



57



58



59



60



61



62



63



64



65



66



67



68



69



70



71



72



73



74



75



76



77



78



79



80



81



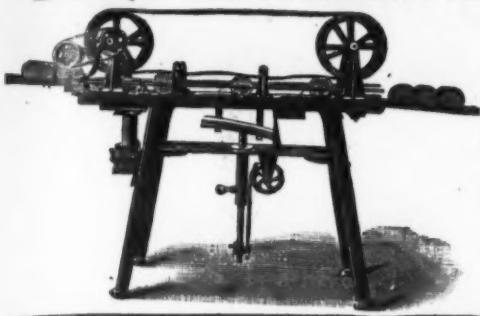
82



83



## BURT LABELLING MACHINES.



Our Labelling Machines are sold under guarantee.

Send for Catalogue of particulars.

## BURT LABELLING MACHINE CO.

851 Equitable Bldg., BALTIMORE, MD.

Incorporated 1866.

Charter Perpetual.



Issues Policies of Insurance after a Careful Inspection of the Boilers, Covering all Loss or Damage to Boilers, Buildings and Machinery, and Damage Resulting from Loss of Life and Personal Injuries Caused by Steam Boiler Explosions.

Full information concerning the plan of the Company's operations can be obtained at the COMPANY'S OFFICE, HARTFORD, CONN., or at any Agency.

J. M. ALLEN, President. W. B. FRANKLIN, Vice-Prest. J. B. PIERCE, Secretary.

FRANCIS B. ALLEN, 2d Vice-Prest. E. J. MURPHY, M. E., Consulting Engineer.

GENERAL AGENTS IN THE SOUTH.

LAWFORD & MCKIM, BALTIMORE, MD., Chamber Commerce. C. C. GARDNER, ST. LOUIS, MO., 319 N. Fourth Street. LOUIS V. CLARK & CO., BIRMINGHAM, ALA., 221 First Avenue. W. S. HASTIE & SON, CHARLESTON, S. C., 44 Broad Street. PETER F. PESCU, NEW ORLEANS, LA., 188 Gravier Street.



BOOKS NEWSPAPERS CIRCULARS  
PAMPHLETS CATALOGUES PRICE-LISTS  
RECORD PRINTING HOUSE  
Cor EXCHANGE PLACE AND COMMERCE STREET, BALTIMORE, MD.

Send for Illustrated Catalogue of Everything a Brickmaker Needs.

## THE HENRY MARTIN BRICK MACHINE MFG. CO.

LANCASTER, PA.

1857

1897

## BRICK and CLAY-WORKING Machinery

Steam or Horse-Power.

## BRICK MACHINES.

GEORGE CARNELL, 1819 1821 Germantown Ave., cor. 5th.

PHILADELPHIA, PA.



## Weir's Model Drill Chuck.

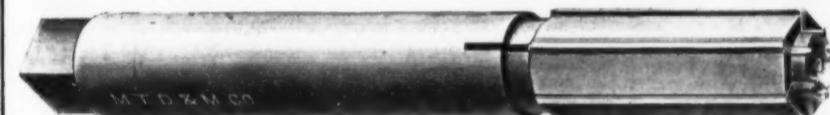
Positively Dust Proof.  
Powerful Grip without using a wrench.  
Perfectly true and smaller in diameter.  
Will stand more hard usage than any other make in the market.  
Costs Less.



Bit-Brace and Breast Drill Chucks.  
PRATT & WEIR CHUCK CO.  
HARTFORD, CONN.

## Morse Twist Drill &amp; Machine Co.

NEW BEDFORD, MASS., U.S.A.

REAMERS,  
MILLING CUTTERS,

## MACHINISTS' TOOLS,



## THREE-GROOVE REAMER,

Found particularly desirable for use in Cored Holes.

## HOLLOW DRILLS, - - -

For Deep Drilling in Long Holes.

SEND FOR CATALOGUE.

## This Certainly is Specific?

If you will give us certain details concerning your present steam plant viz: Such details as we will suggest if you write us, we will do this—We will tell you precisely what percentage of \*saving you can effect by installing the

## Webster System of Steam Heating

Its unique possibilities as a dividend earning investment are set forth in a highly condensed little booklet which may be had for the asking.

Warren Webster & Co.,  
Camden, N. J. New York,  
39 Cortland Street.  
Chicago,  
1504 Monadnock Bldg.

\*Guaranteed saving we mean.

# WESTINGHOUSE ELECTRIC & MANUFACTURING CO., PITTSBURG, PA.

The Leading Manufacturers of

Electrical Apparatus for Electric Lighting, Power Transmission and Electric Railway Plants.

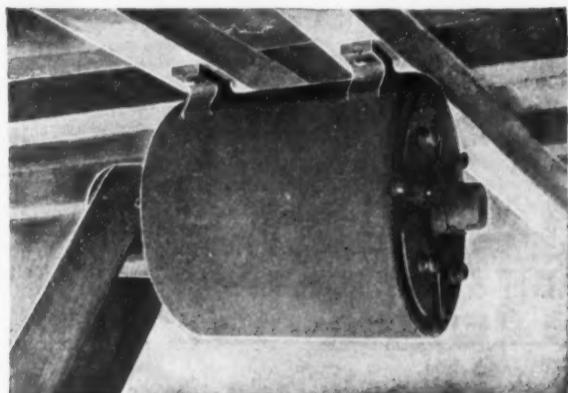
NEW YORK, 120 Broadway.  
BOSTON, Exchange Building.  
BUFFALO, No. 8, Erie County Bank Building.  
CHARLOTTE, N. C., 36-38 College Street.

CHICAGO, New York Life Building.  
PHILADELPHIA, Girard Building.  
PITTSBURG, Westinghouse Building.  
ST. LOUIS, American Central Building.

SAN FRANCISCO, Mills Building.  
SYRACUSE, N. Y., Bastable Building.  
TACOMA, WASH., 102 S. 10th Street.  
For CANADA address—Ahearn & Soper, OTTAWA, CANADA.

WESTINGHOUSE ELECTRIC CO., Ltd., 32 Victoria St., London, S. W., England.

## THE LATEST IRON CLAD MOTOR.



A Type that is Absolutely  
Dirt and Dust Proof.

LOW Temperature Increase.

SPARKLESS Commutation.

BUILT in Sizes from 10 H. P. up.

HIGH Efficiency.

UNEQUALLED adaptabilities for all  
classes of Factory work, and wherever  
space is a factor. May be placed  
in any position.

Branch Offices:

63 Oliver Street, BOSTON, MASS.  
633 Arch Street, PHILADELPHIA, PA.  
630 Equitable Building, ATLANTA, GA.

C & C ELECTRIC CO.

Main Office—143 Liberty St., NEW YORK.

## GENERAL ELECTRIC COMPANY COMPLETE ELECTRICAL EQUIPMENTS

FOR LIGHTING AND DRIVING

MILLS, FACTORIES, SHOPS, Etc., Etc.

Water-Powers Rendered Profitable by our System of Long-Distance TRANSMISSION of POWER

### ELECTRICAL APPARATUS FOR ALL LIGHT AND POWER PURPOSES.

WRITE FOR ESTIMATES.

MAIN OFFICE, SCHENECTADY, N. Y.

Sales Offices:

Boston, Mass.  
Syracuse, N. Y.

New York, N. Y.  
Baltimore, Md.  
Pittsburgh, Pa.

Philadelphia, Pa.  
Columbus, Ohio.  
Nashville, Tenn.

Cincinnati, Ohio.  
Dallas, Texas.  
Kansas City, Mo.

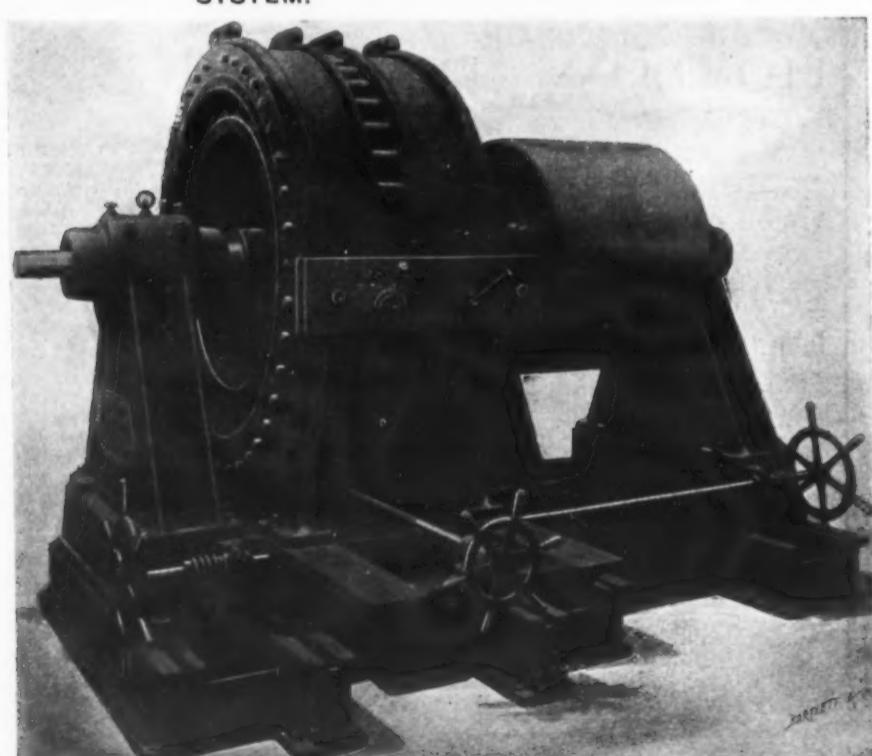
Chicago, Ill.  
Detroit, Mich.  
Denver, Colo.

St. Louis, Mo.  
Portland, Ore.  
Atlanta, Ga.

San Francisco, Cal.  
Buffalo, N. Y.

## S. K. C. The Stanley Electric Mfg. Co's

SYSTEM.



240 Kilowatt S. K. C.

## GENERATOR

SIMPLICITY and STRENGTH

Its Two Striking Characteristics.

No Moving Wire. No Collector. No Commutator.

Better Electrical Results  
than can be obtained from  
old-fashioned, alternating  
current dynamos.

In all branches of trade the  
best work is being done by  
specialists, which is what  
we claim to be.

All intelligent users of electrical apparatus are beginning to realize that the best machinery, not that which costs the least, is the cheapest.

Main Office—PITTSFIELD, MASS.

BRANCH OFFICES:

ANDERSON, S. C.

NEW YORK,  
39 Cortlandt Street.

CHICAGO,  
1506 Marquette Building.

SAN FRANCISCO,  
106 Market Street.

BOSTON,  
Equitable Building.

ST. LOUIS,  
10 N. Ninth Street.

URG

CANADA

R.

ation

ASS.  
PHIA, PA.  
ANTA, GA

YORK.

Y

OWER.

isco, Cal.  
N. Y.

D's

R

tator.

trade th  
g done b  
is what

realize th  
st.

BOSTON,  
itable Buildi  
ST. LOUIS,  
N. Ninth Stre

Elect

UNEXCE

A  
L  
M

Our Ap

Fort V

New York City—  
Chicago—621-622  
Philadelphia—90  
Boston, Mass.—  
Rochester, N. Y.—  
Columbus, O.—  
Broad Street.  
San Francisco—  
Pittsburg, Pa.—

Maryl

. CO  
BOILE

Manufactur

The  
CO

Are Un  
Sh

For Lig

Comm

23

SMET

1210 BET

PH

ng Distanc

Comple

XUM

**"WOOD"**  
**Electric Lighting**  
**AND Power Apparatus.**  
**UNEXCELLED IN EFFICIENCY.**

We manufacture only the highest class of Arc, Alternating and Direct Current Incandescent Electric Lighting APPARATUS, Lamps, Transformers and Motors.

Our Apparatus is used in the Illumination of the Large Cities of this Country.

**Fort Wayne Electric Corporation,**  
**FORT WAYNE, INDIANA.**

BRANCH OFFICES.

New York City—115 Broadway.  
 Chicago—621-635 Marquette Building.  
 Philadelphia—907 Filbert Street.  
 Boston, Mass.—17 Federal Street.  
 Rochester, N. Y.—Powers Building.  
 Columbus, O.—410 Wyandotte Building, W.  
 Broad Street.  
 San Francisco—18 Second Street.  
 Pittsburgh, Pa.—405 Times Building.

New Orleans, La.—Raymond, Barnes & Gray, Agents.  
 Omaha, Neb.—1201 Farnam Street.  
 St. Paul, Minn.—118 Germania Life Bldg.  
 Cincinnati, Ohio—402 Neave Building.  
 San Antonio, Texas—207 Lasoya Street.  
 Atlanta, Ga.—25 Marietta Street.  
 St. Louis, Mo.—321 Security Building.

**Maryland Mfg. & Construction Co.**

236 to 346 North Street, BALTIMORE, MD.

**Electrical Machinery  
 and Construction.**

**COMPLETE STEAM PLANTS . . .**

BOILERS, ENGINES,  
 DYNAMOS.

CANNING HOUSE  
 MACHINERY.

Manufacturers of the "SUBURBAN," "POSTAL" and "DRUID" Bicycles.

Send for Catalogue.

**THE COMMONWEALTH**

**INCANDESCENT**

Are Unsurpassed for High Efficiency,  
 Slow Speed.

For Lighting Plants and Power Purposes.

**Commonwealth Electric Construction Co.**

Reliable Agents Wanted.

233 SOUTH FIFTH STREET, PHILADELPHIA, PA.

**SMETHURST & ALLEN,**

W. A. SMETHURST.  
 RODNEY D. ALLEN.

1210 BETZ BUILDING,  
 PHILA. PA.  
 Long Distance Telephone 4839.

**Electric Railway Contractors**

Complete Electric Light and Power Installations. Electric Railway Work a Specialty.

**TELEPHONES**

Long and  
 Short Distance.  
 Our Improved Telephone  
 Guaranteed Superior  
 in Every Way.  
 Send for Catalogue.

**THE UNION ELECTRIC CO.**  
 17 High Street,  
 CLEVELAND, OHIO.



**GENUINE  
 "HUNNINGS"  
 TELEPHONES**

**Switchboards  
 30,000 IN USE.**

LINE MATERIAL  
 of every description  
 at proper prices.  
 Can refer to 300 ex-  
 changes.

Write to Catalogue.

**American  
 "Hunnings"  
 Telephone Co.**

**STEARNS & GRAY,  
 SOLE AGENTS,  
 484 Cerondale St., NEW ORLEANS, LA.**

**NOTICE**

When you want to use

**TELEPHONES**

You want them to WORK.

**DO NOT PURCHASE  
 THE CHEAP TRUCK**

offered, but write the MANUFACTURER of  
 25 years' experience for information.

**VIADUCT CO.  
 BALTIMORE, MD.**

Mention this paper.

**TELEPHONE, TELEGRAPH  
 AND ELECTRIC LIGHT** **CROSS ARMS**

Insulator Pins and Brackets.

Get our prices delivered any point in United States. Our goods exceed our prices are the best.

**THE DAILY MFG. CO., Elkin, N. C.**

Subscribe to the Manufacturers' Record.  
 Price \$4 a year, or six months for \$2.

**NON-SPARKING  
 COOL RUNNING**



**Motors AND  
 Dynamos.**

These results obtained by CORRECT DESIGN.

A Strong Field overcomes change of load and Sparking.

Wires exposed to the air keep the machine cool.

Non-Overlapping, Independent Coils. Remove danger of Burn Outs and are easily repaired.

**COMMERCIAL ELECTRIC CO.**

11 Capitol Avenue, INDIANAPOLIS, IND.

**The ORATOR**

**AND  
 Improved Hunnings**

solid back dust transmitters in Wall, Desk and Cabinet Styles. They are Convenient, Durable, and the best of talkers.

A trial will convince anyone of their superiority on either short or long distance work.

Anyone can make an instrument that will work well at first, but to produce one that will continue to meet every proper demand is quite another problem.

The ORATOR will.

MANUFACTURED BY

**The RAWSON ELECTRIC CO.**  
 ELYRIA, O., U. S. A.

**New Kokomo Transmitter.**

BARKALOW PATENT.  
 Issued Nov. 17, 1895.

**FINEST TALKER ON EARTH.**

Especially for Exchange and Long Distance Service.

We Manufacture Switch-boards, all styles of Telephones and every thing to equip an exchange.

Send for Illustrated Catalogue.

**Kokomo Telephone &  
 Electric Mfg. Co.**  
 KOKOMO, IND., U. S. A.

**SHAWAN-THRESHER ELECTRIC CO.**  
 Electrical Engineers and Builders of Electrical  
 Machinery. Dayton, Ohio, U. S. A.

**TRIBUNE BICYCLES.**

THE BEST IN THE WORLD.



**The BLACK MFG. CO., Erie, Pa.**  
 WM. H. COLE & SONS, Baltimore, Md.  
 Send for Catalogue.



**THE CARD ELECTRIC CO.  
 MANSFIELD, OHIO, U. S. A.**



**'96 JENKINS' '96.**  
THE PERFECTION OF JOINT PACKING. INSTANTANEOUS, DOES NOT SQUEEZE OUT AND NOT NECESSARY TO FOLLOW UP JOINT. We guarantee it to last for years on any and all pressures of steam or any kind of joint where packing is required. Does not Eat, Burn or Blow Out, therefore the best for all purposes. Call for and insist on having '96 JENKINS' '96 stamped like cast. JENKINS BROTHERS, New York, Boston, Philadelphia, Chicago.

**H. STEVENS' SONS CO., Macon, Ga.**

Manufacturers of

**Sewer and R. R. Culvert Pipe,**

Fire Brick, Milled Clay Flue Pipe and Chimney Tops, Urns, &c. Correspondence solicited.

Awarded Gold Metal Cotton States and International Exposition, 1895.



**ASPHALT READY ROOFING**

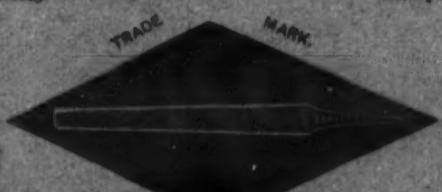
Already coated with gravel. No trouble in laying. Our process is patented and no one else can make a similar roofing. Rolls easy to handle. Use only the genuine.

ASPHALT READY ROOFING CO., 138 Water St., NEW YORK.

**Black Diamond File Works.**

Established 1863.

Twelve Medals Awarded at International Expositions.



Incorporated 1866.

Special Prize Gold Medal Atlanta 1895

Our goods are on sale in every leading Hardware Store in the United States and Canada.

**G. & H. BARNETT CO., Philadelphia, Pa.**

**NORTON Emery and Corundum Wheels.**



Contain Nothing but Cutting Properties. Are Free from Dust or Odor. Fast Cutting and Durable. Porous and Open. Do not Heat the Work.

... WILL WORK EQUIALLY WELL WET OR DRY ...

Send for New Illustrated Catalogue.

**THOMAS K. CAREY & BROS. CO., Agents,**

**BALTIMORE, MD.**

**Wheeling**



One of our Barrows becomes a pleasure to those who use them.

Let us send you a Catalogue.

**THE KILBOURNE & JACOBS MFG. CO.**

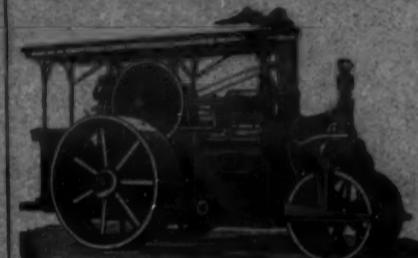
Makers of Wheelbarrows, Scrapers and Trucks of all kinds, COLUMBUS, OHIO, U. S. A.

**BUFFALO FORCE CO.**  
**AUTOMATIC ENGINES**  
New York Address: 26 CORTLAND STREET,  
BUFFALO, N. Y.



For Stationary, Portable, Traction Engines, Tugboats, &c. Thoroughly Reliable—Perfectly Automatic. JENKINS BROS., Selling Agents, NEW YORK, BOSTON, PHILA., CHICAGO.

**STEAM ROAD ROLLERS.**



THE O. S. KELLY CO.  
SPRINGFIELD, O.



CHARLES H. BESLY & CO., CHICAGO, U. S. A.

10-12 N. CANAL ST.

SEND FOR CATALOGUE.

It Will Not Deceive.

THE



VALVE DRIP

AUTOMATIC WATER GAGE is the only automatic water gage in which the automatic valve cannot be made to stick and to show a FALSE WATER LEVEL.

Send for Descriptive Circular.

PENBERTHY INJECTOR CO.

125 Seventh Street, DETROIT, MICH.

Largest Injector Manufacturers in the world.

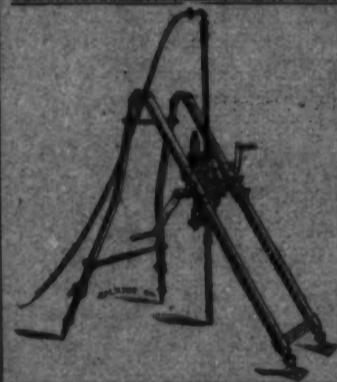
Wanted—An Idea.

Protect your Ideas; they may bring you wealth. Write JOHN WEDDEBURN & CO., Patent Attorneys, Washington, D. C., for their \$1,000 prize offer and new list of one thousand inventions wanted.

**Contractor for Prospecting**

WITH AND SALE OF

**DIAMOND DRILLS.**



Holes Bored to Any Depth.

**H. P. SIMPSON.**

Scranton, Pa.

**LUNKENHEIMER'S AUTOMATIC SINGLE TUBE INJECTORS**



Work perfectly without adjustment from 25 to 250 lbs. steam pressure. Has fewer parts than other injectors and is more durable. Starts instantly without priming. Unequalled for simplicity, durability, efficiency. Interchangeable with standard makes. Investigation invited and satisfaction guaranteed. None as good as Lunkenheimer's, if you want the best.

Write for special circular and prices.

**THE LUNKENHEIMER COMPANY, Cincinnati, Ohio, U. S. A.**

SOLE MANUFACTURERS.

108 Havemeyer Bldg., NEW YORK.

BRANCHES: No. 35 Great Dover St., LONDON, S. E.

**HAINES, JONES & CADBURY CO.**  
PHILADELPHIA, PA.  
MANUFACTURERS  
HIGH CLASS PLUMBING GOODS.

**DIXON'S SILICA GRAPHITE PAINT**

FOR TIN OR SHINGLE ROOFS AND IRON WORK. This rock well painted has IT IS ABSOLUTELY WITHOUT AN EQUAL. If you need any paint it will pay you to send for circular.

JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

THE STANDARD TOOL CO., Cleveland, Ohio, Manufacture



**Twist Drills**

REAMERS, TAPS, MILLING CUTTERS, SPUR GROOVES and FLAT SPRING KEYS.